

Progress with delivering the Flexibility Plan

An expert assessment of the pace and direction of
progress towards maximising the value of flexibility

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We have assessed the pace and direction of progress by the electricity ecosystem with delivering the Flexibility Plan

FlexForum is an incorporated society with Members¹ from across the electricity ecosystem committed to working together to make it easy for households, businesses and communities to maximise the value of flexibility and electrification.

Flexibility² – from things like electric vehicles (EV), solar, battery storage, heating and cooling equipment and energy management systems – gives households and businesses greater agency and autonomy over their energy costs and outcomes and provides another tool for ensuring a reliable and affordable electricity system.³

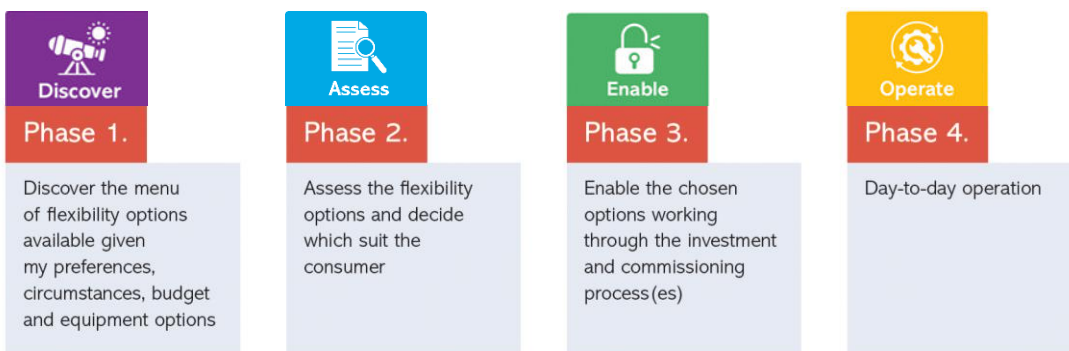
Flexibility is our focus because it is central to affordable and reliable electrification and a key enabler of a truly consumer-centric electricity market and system.

Monitoring progress with the Flexibility Plan is a necessary condition for effective coordination and collaboration

Our Flexibility Plan 1.0 was published in August 2022 to provide a comprehensive set of scalable, least-regrets actions to unlock the value of distributed flexibility in Aotearoa New Zealand. The Flexibility Plan is a checklist that will evolve as more is learned about what is making it difficult for households, businesses and communities to maximise the value of their flexible resources, and what steps are necessary to make it easier for them. This will inevitably involve adding, removing and refining tasks on the checklist.

We have assessed progress with the Flexibility Plan using the insights and experience of FlexForum Members and assistance of 13 experts from within the membership.

Progress was measured by testing the extent to which a household, business or community has or will experience a practical and tangible difference across their flexibility journey from the activity to deliver each step.



¹ FlexForum Members are listed at <https://flexforum.nz/about/>. Members span the electricity ecosystem and include electricity generators, retailers, metering services providers, EV charger manufacturers, energy management software firms, Transpower, distributors, advisory services firms, industry associations, universities, and individuals.

² For readers looking for a definition, we think flexibility is the modification of generation injection and consumption patterns, on an individual or aggregated level, often in reaction to an external signal, to provide a service to the owner or within the power system.

³ The benefits of flexibility are flagged by a range of parties including [Transpower](#), the [Market development advisory group](#), and the [BCG Climate change in New Zealand: the future is electric report](#).

Progress is being made but more needs to be done and faster

We found **the majority of the 39 steps are at an early stage** with 32 of the 39 steps assessed as either ‘not yet started’ or ‘started’. Only one step – confirming a delivery model for the Flexibility Plan – is complete, and was achieved through the formal establishment of the FlexForum.

Progress has been made on 15 steps through 10 pilots and trials that publicly reported learnings. The Flexibility Plan is the reason we can easily show the connections between the various learning-by-doing activities and highlight gaps.

More pilots and trials are needed. A single learning activity or example is rarely sufficient to confidently understand the options and narrow the choices about what to do. Pilots and trials need to intentionally focus on how the learnings are shared through the flexibility ecosystem to inform feedback loops to regulatory decision making.

Further, more sharing of learning and experience is needed. The electricity ecosystem is still learning how to learn-by-doing. We need much greater transparency in the thinking and learning-by-doing with the goal that all activities should support end-to-end involvement of all key interests.

A greater focus is needed on steps which would make it easier for people to make the business case for flexibility

Progress is focused on steps that align with the needs and interests of market participants, rather than the needs and interests of people.

Our assessment found 12 steps providing inputs to the flexibility business case of each household, business and community require much more effort and a higher priority. Progress is least satisfactory for steps in the initial ‘discover’ phase of the flexibility journey and most satisfactory for steps in the final ‘operate’ phase. **The locus of effort, resources and progress is in the parts of the flexibility journey that presume the people has *already discovered* the various flexibility options** available to them.

Prioritising steps that are needed to provide people the inputs for their flexibility business case would make an immediate, tangible and positive impact by allowing people to make decisions in their own context. As with any business case, people need inputs – information and advice – that is relevant to their situation. This will ensure the effort currently being applied across the electricity ecosystem and is met with properly informed choices and investment in flexible resources by households, businesses and communities.

The progress assessment has also highlighted where the Flexibility Plan needs to be improved and updated to include missing steps and reflect things learned. This update will occur over the remainder of 2024.

Smart progress – meaning both fast and affordable – to a future which involves a far greater reliance on electricity and the electricity system and market requires a coordinating entity assess the progress against an evidence-based plan developed with the input of experts from across the electricity ecosystem.

This report is a FlexForum perspective given its objective and purpose and drawing on the expertise and perspectives of FlexForum Members. Individual FlexForum Members may have their own perspectives and positions.

Contact info@flexforum.nz with questions or to find out more.

An expert assessment of the pace and direction of progress to maximise the value of flexibility

Monitoring progress with the Flexibility Plan is a necessary condition for effective coordination and collaboration

Our [Flexibility Plan 1.0](#) was published in August 2022 to provide a list of scalable and least-regrets steps to be taken by the electricity ecosystem to make it easy for households, businesses and communities to maximise the value of flexible resources and support the affordable and reliable operation of the electricity market and system.

A core FlexForum purpose is to monitor progress with the Flexibility Plan. This is the first assessment.

FlexForum is agnostic about who delivers the 39 steps. The Flexibility Plan provides a reference point for **coordinated action**, **collaboration** and **providing accountability** to maintain the pace and direction of progress by the electricity ecosystem – covering existing industry participants, policy and regulatory bodies, emerging participants and others influencing the choices and actions of people. No single party can deliver the Flexibility Plan. Effort is required from across the electricity ecosystem.

- **coordinated action** – the whole-of-system checklist sets out what needs to be done
- **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.

The Flexibility Plan is a living document and will evolve over time as we amend, add and tick off steps based on new information and improved understanding about the steps required to address the difficulties faced by households, businesses and communities in making choices about and maximising the value of their flexible resources.

We expect Flexibility Plan 2.0 to be ready in early 2025 in time for the next annual check in on the pace and direction of progress.

Progress was assessed by experts from across the FlexForum membership

We took a staged process to assess progress with the Plan.

Stage 1. Determine the activity for each step. Members were asked in May 2024 to critique and add to a description for each step of what has been done or is happening prepared using public information. The description of activity for each step provided the basis for stage 2.

Stage 2. Assess the pace and direction of activity for each step. During June 2024 13 experts⁴ from across the membership completed a structured survey (requiring 1-2 hours) to provide their expert assessment of progress about:

- what is the state of progress using a scale of 0 (not started) to 5 (completed)⁵
- what is the evidence or reasons for this level of progress
- is the state of progress satisfactory or not based on the impact on the ability for people to make choices about and maximise the value of their flexible resources. What more should be done?

Stage 3. Confirm the assessment. The conclusions from the expert assessment were tested and confirmed with Members in July and August 2024.

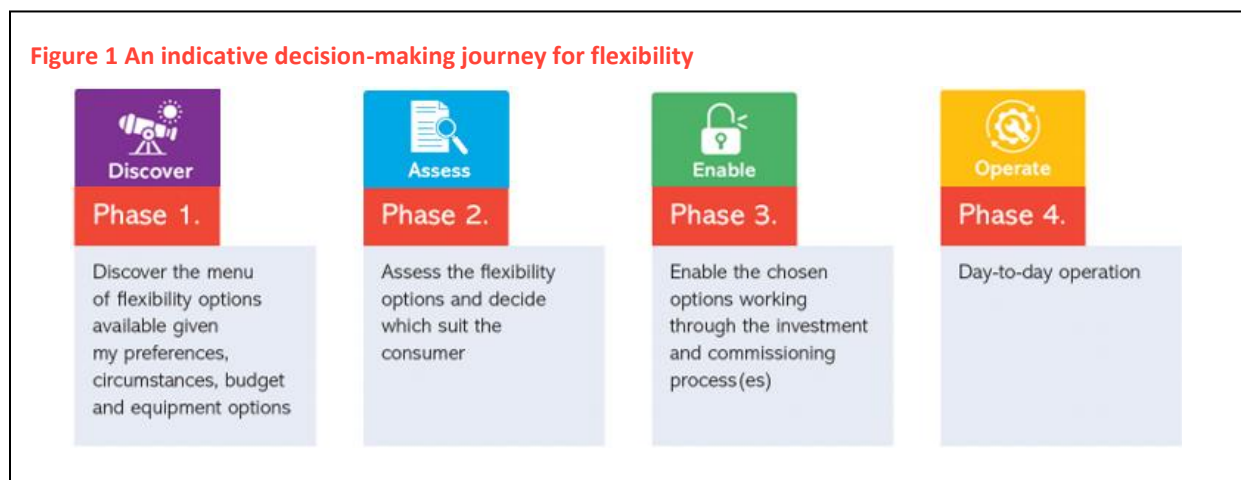
Progress was measured from the perspective of the human

FlexForum exists to make it easier for households, businesses and communities to make choices about and maximise the value of their flexibility.

The purpose of each step is to provide a specific capability, process or practice the electricity ecosystem must have to deliver the five⁶ flexibility outcomes sought by a household, business or community.

For this reason, progress was measured from the perspective of the human and the extent to which they have or will experience a practical and tangible difference given the progress with each step.

The Plan was developed using a high-level customer journey and each of the 39 steps is allocated to one of four phases of the flexibility decision-making journey.



⁴ The 13 experts spanned the ecosystem: electricity distributors, electricity retailers (large and not large), flexibility coordinators, device manufacturers, data coordinators, and consumers.

⁵ Progress was rated using this 0-5 scale

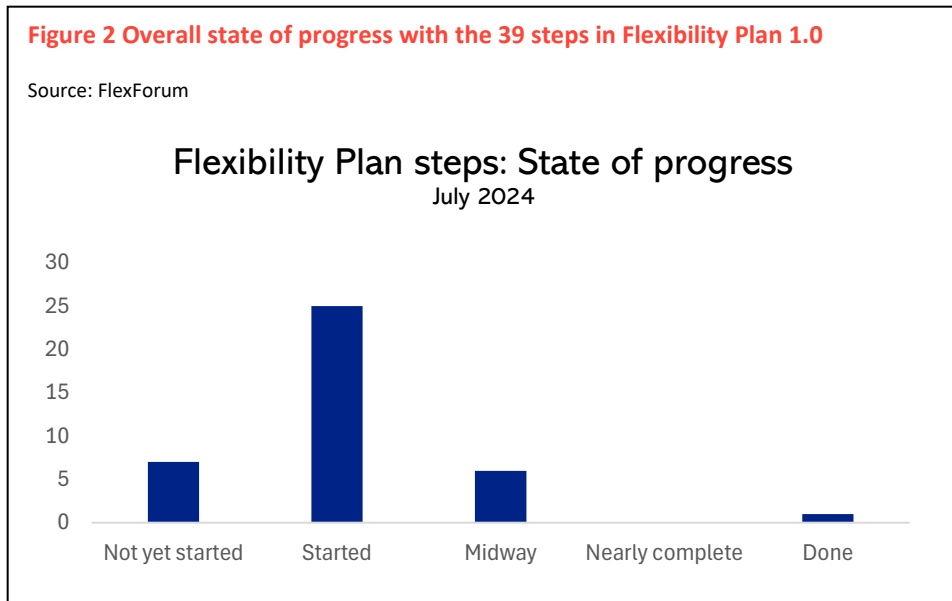
- 0 – activity on this step has not yet started or people are just talking about doing something.
- 1 – activity has started on this step, but it is early days. Scoping is underway. There may be little or no coordination or collaboration.
- 2 – activity is underway, there is collaboration and coordination across stakeholders, and progress information is being released.
- 3 – activity is well progressed. Extensive collaboration and coordination is occurring and information is publicly available about experience and insights
- 4 – activity is nearly done. Information is available about progress and experience. The step is transitioning to become routine. There are a few minor tasks left to complete before we can call this step done.
- 5 – job done. The outcome is routinely realised. Backs have been slapped. Nothing more to do.

⁶ The outcomes are: Minimise connection costs; Minimise energy-related ongoing costs; Manage reliability and resilience; Reduce emissions; and Monetise flexible resources. Keen readers of Flexibility Plan 1.0 will at this juncture ask why we are referring to 5 outcomes rather than the 7 actually listed...the reason is the 3 outcomes relating to providing services across the electricity supply chain are combined because they are variations of the same thing.

The headline result is progress is being made but more needs to be done and faster...

Most steps in the Plan are at an early stage of delivery, with activity started on 25 out of 39 steps started and no activity yet on 7 steps. An overview of the state of progress for each step is provided in the Appendix.

The completed step is **#A: Scope and confirm a delivery model for the Flexibility Plan**. This was completed when the FlexForum was incorporated in 2023 with a constitutional requirement to oversee delivery of the Flexibility Plan. That said, some reviewers commented that the delivery model requires ongoing attention to embed the critical role of having someone responsible for whole-of-system coordination and to embed the use of learning-by-doing.



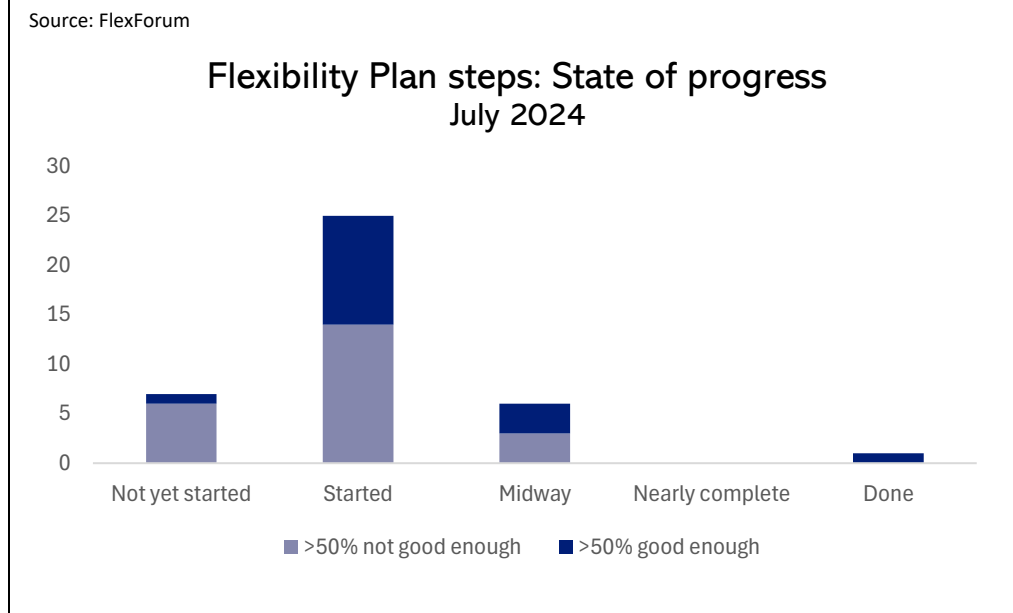
The expert reviewers were asked “Is this progress good enough? Should we be doing more?”. This let us calibrate progress to the pace that should be achieved (in the eyes of the experts) – lack of progress on a step isn’t, in and of itself, a bad thing, if that step is not urgent, or is waiting on other steps to be completed.

The assessment found progress is reasonable for several of the steps at the “started” stage, but the majority of steps are not seeing the pace of activity that is necessary to maximise the full value of flexibility.⁷

For 27 out of 39 steps, more than half of the experts considered the state of progress was not sufficient.

⁷ This could have you asking what does good progress look like as the evidence and reasons behind the expert opinion is not fully transparent. FlexForum has started to document what good looks like (referred to as a blueprint) that will give more clarity about good progress, but this will not be ready until early 2025. An anchor point for what good looks like is people have easy access to the personalised information and advice necessary to confidently make choices and receive rewards equivalent to the value to the user of their flexibility.

Figure 3 Assessment of the overall pace of progress with each step in Flexibility Plan 1.0



15 steps are being delivered through learning-by-doing

We have visibility of 10 pilots and trials which involve activities necessary to deliver 15 steps. This learning-by-doing is a necessary condition for identifying and developing new capability, processes and practices to maximise the value of flexibility.

Each of the pilots and trials is listed here because the activity involves practical learning. Some projects are listed several times due to the interconnectedness of things. Reflecting our celebration of learning-by-doing wherever and whoever is doing it, the list includes activities of people who are not part of FlexForum. However, the list does not include activities without material public information about what is or has been done.

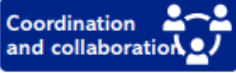




1. Resiflex, a [Orion Energy](#) and [Wellington Electricity](#) project to identify mechanisms to enable households to maximise the value of their flexible resources
2. [Kainga Ora](#) multiple trading pilot, a project supported by Ara Ake to test unbundling of household retail and selling spare solar
3. [distributor](#) requests for proposals to provide flexibility to assist in managing network capacity shortfalls
4. [Aurora](#) (in the upper Clutha area), [Orion](#) (in the Lincoln area) and [Powerco](#) (in the Coromandel) contracting with a flexibility coordinator to assist in managing network capacity shortfalls
5. [FlexTalk](#), a Electricity Engineers Association project, supported by EECA, to test the use of a common communications protocol to coordinate EV charging in near real time
6. Ara Ake [EDB challenge](#) involving 8 distributors to identify ways to improve visibility of network operation and forecasting of changing network use
7. [Winter peak innovation pilot](#) – a Solarzero and Ara Ake initiative to test how flexible resources can be used to manage winter peak events where there is a shortfall in network capacity
8. [FlexViz](#), a Cortexo project supported by Ara Ake to test a way to make flexible resources and owners visible to potential users

9. [Local Flex](#) – an Our Energy project to test a platform to streamline the advertising, offer and acceptance of flexibility for network reasons
10. [Auckland Transport and Vector](#) initiative to optimise connection infrastructure by coordinating electric bus charging based on forecasts of next day network capacity.

More detail on each project and the steps they are delivering is provided in **Error! Reference source not found.**the Appendix.

Our observation is that the Plan is the reason we can easily show the connections between the various learning-by-doing activities and highlight gaps – a goal without a plan is just a wish.⁸

Table 1 Steps being delivered through learning-by-doing

Point in the flexibility journey	Step
 <p>Coordination and collaboration</p>	#C Complete a customer journey map...
 <p>Discover</p>	<p>#5 Provide people the ability to buy and sell electricity services using multiple providers...</p> <p>#6 Develop a common definition of network services...</p>
 <p>Assess</p>	<p>#12 Improve the availability to consumers of information about current and forecast network capacity and constraints...</p> <p>#17 Provide clarity around the intent and criteria for using flexibility by network operators</p> <p>#19 Demonstrate the effectiveness of using flexibility for network reasons</p> <p>#20 Understand the interaction between price-based flexibility and contracted flexibility</p> <p>#32 Identify an easy-to-use method and process for providing visibility of and access to opportunities to supply flexibility for network reasons.</p>
 <p>Enable</p>	<p>#25 Identify minimum technical standards for devices such as EV chargers...</p> <p>#28 Explore the delivery of a register of flexibility resources to make it easy for people to offer their flexibility and buyers to recruit flexibility.</p> <p>#31 Identify the measurement, communication and connectivity requirements for devices using flexibility</p> <p>#33 Develop a scalable and accessible process for distributors to procure flexibility</p>
 <p>Operate</p>	<p>#11 Explore the use of dynamic operating envelopes for managing access to the network</p> <p>#35 Identify the coordination capability, roles and functions required for distributors and the System Operator to optimise network and power system operation.</p> <p>#36 Identify a common process for validation and settlement of services using flexibility to supply network services and ancillary services</p>

⁸ So said Antoine de Saint-Exupery.

More pilots and trials are needed. And far more sharing of learning

More pilots and trials are needed. A single learning activity or example is rarely sufficient to confidently understand the options and narrow the choices about what to do. For example, understanding the performance of, and the responses to, price-based versus contracted flexibility (#20) will require a range of trials across different household and business segments and different flexible resources.

Several steps are ideally suited to learning by doing. For example, step #23 to Demonstrate the effectiveness of using flexibility for ancillary services is needed to improve the business case for flexibility buyers (ie, retailers and networks) and enable people to evaluate and access the full value of their flexible resources.

There are activities underway which we understand are delivering steps in the Flexibility Plan but information about the purpose and learning is closely held or not publicly available. **Our observation is that the ecosystem is still learning how to “learn-by-doing”** because visibility of activity and sharing of experience is not only critical to fast and efficient development of flexibility it is critical to the ongoing evolution of the checklist embodied by the Flexibility Plan.

We need much greater transparency in the thinking and learning-by-doing with the goal that all activities should support end-to-end involvement of all key interests.

We strongly encourage parties – especially FlexForum members - undertaking pilots and trials to contact the FlexForum secretariat to discuss how learnings can be shared, even where commercial sensitivities need to be respected. This is an important role of FlexForum’s Knowledge Hub which is expected to be launched in **September** 2024.

The Flexibility Plan says...

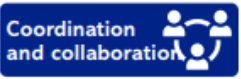




“The starting point is an industry-led body that provides coordination for the delivery of the steps in the Flexibility Plan, which includes transparency about progress and feedback of the learnings to all parties... Ensuring that **practical experience from testing hypotheses is shared through feedback loops** will inform the development of capability, practices and processes, and the development of appropriate regulatory settings. It is important to note that “failures” provide important learnings and should be embraced as a critical part of advancing the Flexibility Plan.

- hypotheses – identified in specific steps – may be tested via real-world or desktop-based projects and trials. Ongoing sharing of results will be important as valuable insights can be obtained during each phase of a project, providing opportunities to test thinking at the scoping stage as well as the delivery stage
- projects take time to scope and start, however existing or completed activities and projects could provide a basis for assessing how the Flexibility Plan can be improved
- a collaborative and near enough approach should be the target to provide options for low-cost experimentation and learning. Projects do not need to be commercial scale.”

The pace and direction of progress is satisfactory for 10 steps

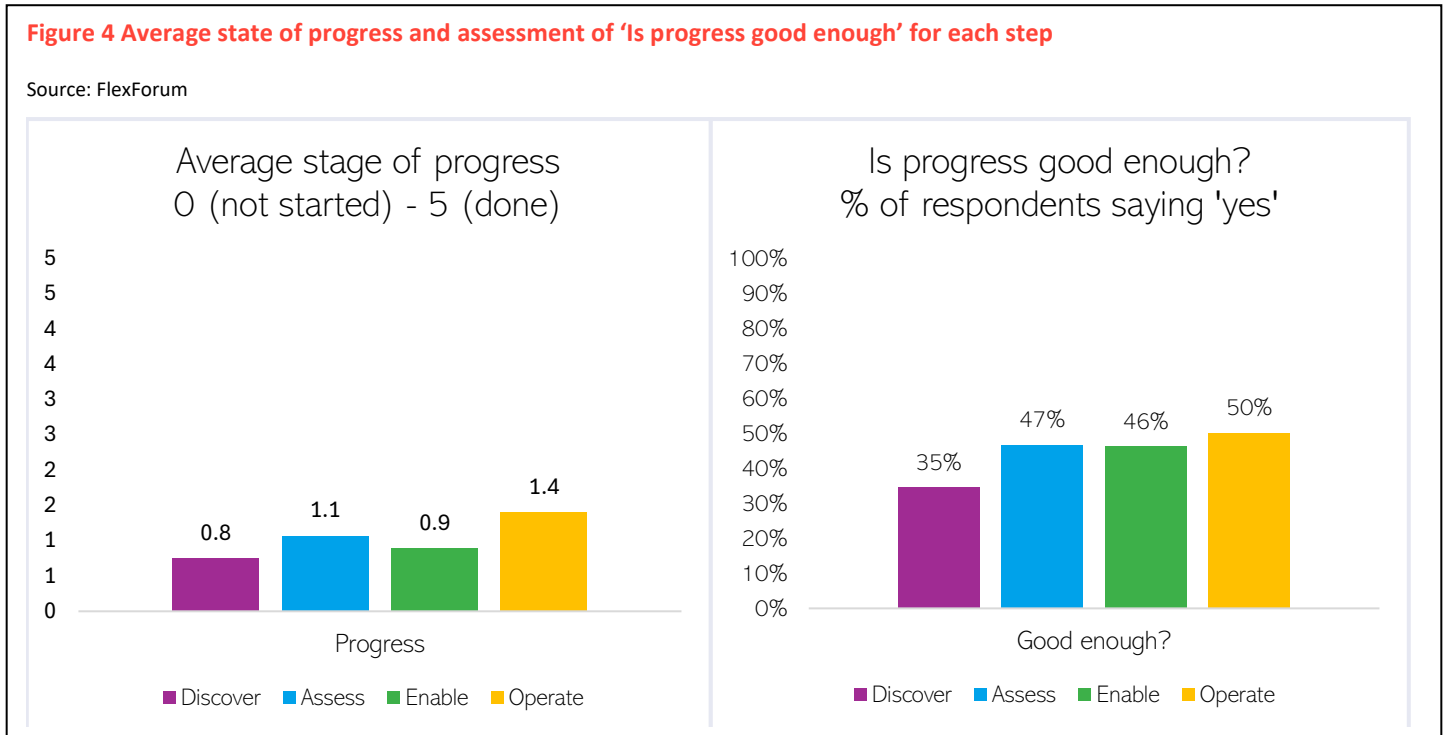
The pace and direction of progress is assessed by a majority of the expert reviewers as satisfactory for 10 (out of 39) steps.

Table 2 Steps assessed as having satisfactory pace and direction of progress

Point in the flexibility journey	Step
 <p>Coordination and collaboration</p>	[none]
 <p>Discover</p>	#5 provide choices for consumers to buy and sell through multiple providers
 <p>Assess</p>	<p>#9 review whether connection requirements enable rapid uptake of DER</p> <p>#12 improve consumers access to network constraint and capacity information</p> <p>#27 review connection application processes and standards</p>
 <p>Enable</p>	<p>#28 Explore the delivery of a register of flexibility resources</p> <p>#29 Identify a common risk management approach for consumer contracts</p> <p>#30 Establish fit-for-purpose requirements for flexibility suppliers</p> <p>#34 Identify common risk management options to supply flexibility to EDBs</p>
 <p>Operate</p>	<p>#11 Explore the use of dynamic operating envelopes for managing access to the network</p> <p>#23 demonstrate the effectiveness of using flexibility for ancillary services</p>

Progress is slowest, and least satisfactory, on the initial phases of the flexibility journey




Progress is least satisfactory for steps in the “Discover” phase of the customer journey. **Figure 4** presents the average state of progress and the assessment by the expert reviewers of the pace and direction of progress for each phase of the flexibility journey.



The Discover phase of the flexibility journey has seen the least activity and progress and a majority of experts consider progress is not sufficient for each of the 8 steps. This presents a concerning picture. The locus of the effort, resources and progress appears to be in those parts of the flexibility journey that presume the household, business or community has *already discovered* the flexibility options and opportunities. Further, 5 of the 7 steps that have not even commenced are in the “discover” or “assess” phase.

Table 3 Steps assessed as having no substantive activity

Point in the flexibility journey	Step
 Coordination and collaboration	[none]
 Discover	#2 provide people with access to their consumption data #8 assess if people have access to wholesale market information #14 help customers assess risk of DER curtailment by providing information on LV voltage performance

Point in the flexibility journey	Step
 Assess	#10 review ADMD assumptions to ensure network design and planning accommodate rapid DER uptake #22 ensure regulatory settings ensure the System Operator has ability to use flexibility for ancillary services
 Enable	#24 a method for qualifying resources to provide ancillary services #29 allocation of risk in contracts between coordinators and people
 Operate	[none]

The focus by the electricity ecosystem on things that directly affect how they operate and interact with flexible resources and flexibility is reasonable. There is nothing inherently wrong with this as the entire flexibility ‘value chain’ needs to work and this includes the aspects of the system that may not be visible to people but are critical to the “enable” and “operate” phase of the flexibility journey.

That said, the “discover” and “assess” phases on the flexibility journey are equally critical to maximising the value of flexibility because they support the business case for flexibility for each household, business and community. A skewed allocation of effort away from these phases could slow the deployment of flexibility – not because the industry failed to determine how to practically use flexibility, but because we failed to empower people to discover the options and opportunities of investing in flexibility in the first place.

The assessment indicates priorities

The Flexibility Plan has 39 steps. None are trivial. All require material effort to understand, explore, test and implement solutions. Deciding where to focus effort and scarce resources is not straight forward given challenges of the day, the specific priorities of those providing resources and funding, key regulatory opportunities (eg, DPP4) and the practical sequencing of activity.

The Flexibility Plan and the expert assessment provides a framework for deciding priorities by revealing where progress is at based on a consensus based whole-of-system checklist of actions and highlighting where progress is satisfactory or more effort is needed.

A greater focus on the discover and assess phases of the flexibility journey is needed

Our observation is that a greater focus on the “Discover” and “Assess” phases of the flexibility journey should be a priority because this will let people make informed decisions in their own context. As with any business case, people need inputs – information and advice – that is relevant to their situation.

Right now, people are making decisions based on their own research or relying on the advice of electricians and equipment vendors without easy access to key inputs to their business case such as their historical consumption data, different retail tariffs (and wholesale pricing in some situations) that allow them to understand the costs and benefits of their flexibility choices.

People are time poor with lives to lead and businesses to run. This means that the advice and information process needs to be easy, consistent and trustworthy. Easy and fast access to trustworthy advice based on comprehensive and personalised data – underpinned by reliable digital information and data exchanges – is a necessary condition to unlock the full value of flexibility. Without this people will do nothing or stick with what they know.

The discover and assess phases of the flexibility journey are about providing people the inputs to build their individual business cases for flexibility.

Our assessment found 12 steps providing inputs to a persons flexibility business case warrant more effort and priority. Progress for each of these steps was assessed as insufficient by 60% or more of the expert reviewers. Steps highlighted **red** have not seen substantive activity.

Immediate and tangible progress on these steps that would result in people making more informed choices to be flexibility capable.

Table 4 Steps in the discover and assess phases of the flexibility journey assessed as requiring greater priority

Point in the flexibility journey	Step	% satisfied
 Discover	#1 information people need to make choices	31%
	#2 provide people with access to their consumption data	8%
	#6 develop a common definition of network services	23%
	#7 assess if consumers have streamlined access to retail pricing and PPAs	23%
	#8 assess if people have access to wholesale market information	38%
 Assess	#10 review ADMD assumptions to ensure network design and planning accommodate rapid DER uptake	38%
	#15 review voltage limits to ensure that they do not create a barrier to DER investment by customers	38%
	#17 distributors to be clear about when and where they intend to use flexibility	23%
	#18 ensure regulatory settings provide incentives to explore and use flexibility	38%
	#20 pricing signals for network capacity management exist/developed	38%
	#21 a method for valuing flexibility for network capacity management	31%
	#22 ensure regulatory settings enable the System Operator to use flexibility for ancillary services	23%

Progress with these steps relies on the electricity ecosystem prioritising effort to support action by people and on regulatory and policy bodies ensuring the rules are fit for purpose. In particular, the imminent decision by the Commerce Commission on the settings

for the default price path applying from 1 April 2025 is critical to progress with step #18. Similarly, the Electricity Authority has an opportunity to support material progress with step #20.

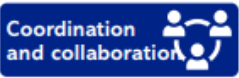


Other steps that most need tangible progress

Progress with 7 steps beyond the discover and assess phase of the flexibility journey was assessed as insufficient by 60% or more of the expert reviewers. Steps highlighted **red** have not seen substantive activity.

We particularly want to call out the unanimous view that more effort is needed to make progress with step #B and increase support for and coordination of learning-by-doing. The expert view is that learning remains siloed (rather than collaborative) and favours a technical and theoretical approach which is unlikely to realise any real-world benefits for either consumers or the sector (since you don't get one without the other). Further, innovators and smaller firms (not necessarily one and the same) continue to have to put material effort to cobble together the support they need rather than actually getting on with the practical learning.

More encouragement for and coordination of real world learning-by-doing that involves real people and commercialisation of flexibility will accelerate progress and maximise value of flexibility for people and the wider economy.

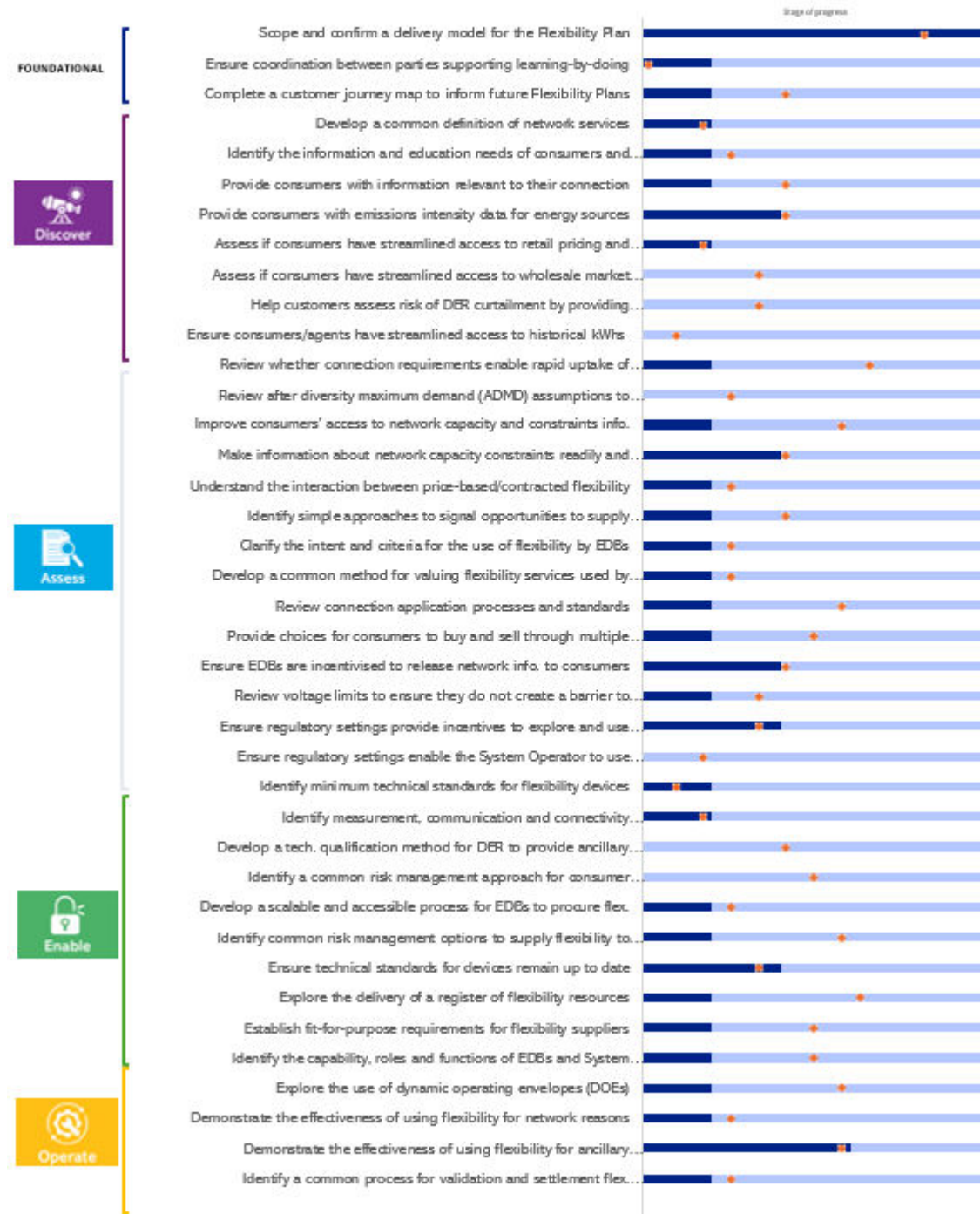
Table 5 Other steps assessed as requiring greater priority

Point in the flexibility journey	Step	% satisfied
 Coordination and collaboration	#B Ensure coordination between parties supporting learning by doing	0%
	#25 identify minimum technical standards for flexibility devices	15%
 Enable	#31 Identify measurement, communication and connectivity requirements for devices	23%
	#24 Develop a method for providing technical qualification of DER to provide ancillary services	38%
	#33 Develop a scalable and accessible process for EDBs to procure flexibility	31%
 Operate	#19 Demonstrate the effectiveness of using flexibility for network reasons	31%
	#36 Identify a common process for validation and settlement of flexibility services	31%

Appendix

Progress with each step in the Flexibility Plan


Progress against the Flexibility Plan 1.0 - 2024



More detail on the learning-by-doing delivering progress across 15 steps

Point in the flexibility journey	Step	Activity
 <p>Coordination and collaboration</p>	<p>#C Complete a customer journey map...User and customer journey mapping should be used to identify how households and businesses make choices and decisions.</p>	<p>Resiflex is an Orion Energy and Wellington Electricity project. Part 1 developed personas to understand how and why people make decisions about flexibility.</p>
 <p>Discover</p>	<p>#5 Provide people the ability to buy and sell electricity services using multiple providers...[to] enable people to maximise the value of their flexible resources, ie, solar, batteries etc.</p>	<p>Kainga Ora with Ara Ake are running a Multiple trading pilot involving unbundling the retail purchase and sale of spare solar power by individual households at a location in Wellington. The pilot is testing potential changes to market arrangements.</p>
	<p>#6 Develop a common definition of network services... [this] should assist: people know what opportunities are on the table and equipment suppliers and manufacturers identify what minimum capability they should include when supplying or designing products.</p>	<p>Several distributors have requested proposals to provide flexibility for defined use cases and services from flexibility owners and coordinators. The proposal documents were developed with reference to what has gone before and are publicly available.</p> <p>FlexTalk tested the use of a common communications protocol to coordinate EV charging in near real time. Part of the trial involved defining the flexibility use cases (ie, services) described on page 36 of the Final report. Recommendation 4 is the 7 programs (ie, use cases) become the foundational use cases / services.</p>
 <p>Assess</p>	<p>#12 Improve the availability to consumers of information about current and forecast network capacity and constraints...to help people make choices about flexibility investments.</p>	<p>Eight distributors through the Ara Ake EDB challenge are piloting ways to improve visibility of network operation and forecasting of changing network use.</p>
	<p>#17 Provide clarity around the intent and criteria for using flexibility by network operators.</p>	<p>Aurora (in the upper Clutha area), Orion (in the Lincoln area) and Powerco (in the Coromandel) have contracted with a flexibility coordinator to provide flexibility to help maintain supply when there is a potential shortage of network capacity.</p> <p>Each situation provides insights about when and why distributors will use flexibility.</p>
	<p>#19 Demonstrate the effectiveness of using flexibility for network reasons to build knowledge around the economic business case, resource availability, use cases, performance characteristics and associated risks, and the processes and platforms necessary for procuring and dispatching that flexibility.</p>	<p>Aurora (in the upper Clutha area), Orion (in the Lincoln area) and Powerco (in the Coromandel) have contracted with a flexibility coordinator to provide flexibility to help maintain supply when there is a potential shortage of network capacity. Each situation provides insights about the effectiveness of using flexibility.</p>

Point in the flexibility journey	Step	Activity
		<p>The Ara Ake and solarZero Winter peak innovation pilot sought to demonstrate that flexible resources (household solar and battery storage) could be used to manage winter peak events where the forecast capacity residual is tight.</p>
	<p>#20 Understand the interaction between price-based flexibility and contracted flexibility to provide people with price points for flexibility and enable value stacking.</p>	<p>Aurora (in the upper Clutha area), Orion (in the Lincoln area) and Powerco (in the Coromandel) have contracted with a flexibility coordinator to provide flexibility to help maintain supply when there is a potential shortage of network capacity.</p> <p>Both situations will be providing learning and insights into the responses to retail pricing and contract payments.</p> <p>Resiflex part 2 explored the flexibility value chain and associated commercial mechanisms (ie, pricing and payment). Part 3 is a pilot(s) to translate the commercial mechanisms into products and test the associated responses (ie, flexibility provided). Expressions of interest to participate in the pilot(s) closed in April 2024.</p>
	<p>#32 Identify an easy-to-use method and process for providing visibility of and access to opportunities to supply flexibility for network reasons... [because] providing long-term visibility of opportunities to use flexibility allows assets to be recruited and ready when required, including via repeat procurements.</p>	<p>FlexViz is a project following on from FlexTalk delivered by Cortexo with support from Ara Ake to test a way to make flexible resources and owners visible to potential users. Resource owners or coordinators provide data every 5 minutes about the amount of flexibility they have available.</p>
 <p>Enable</p>	<p>#25 Identify minimum technical standards for devices such as EV chargers... [because] this will help people know what capability a device needs to monetise their flexibility resources.</p>	<p>FlexTalk tested the OpenADR 2.0 communication protocol to effect near real time communication between devices, flexibility coordinators and distributors to coordinate EV charging and battery charging/discharging. Recommendation 3 is to prepare a guideline setting out the fundamental functional requirements of the communication protocols designed into a device.</p>
	<p>#28 Explore the delivery of a register of flexibility resources to make it easy for people to offer their flexibility and buyers to recruit flexibility.</p>	<p>FlexViz provides a 'shop window' for flexible resources and supports matching of sellers and buyers of flexibility.</p> <p>The Kainga Ora Multiple trading pilot includes a virtual shadow registry with information about the flexibility at a location.</p>
	<p>#31 Identify the measurement, communication and connectivity requirements for devices using flexibility</p>	<p>FlexTalk tested the OpenADR 2.0 communication protocol to effect near real time communication between devices, flexibility coordinators and</p>

Point in the flexibility journey	Step	Activity
	either by the consumer to reduce costs etc, or to provide an electricity system security or market service.	distributors to coordinate EV charging and battery charging/discharging.
	#33 Develop a scalable and accessible process for distributors to procure flexibility [because] making the procurement journey simple, transparent and consistent makes it easier (and cheaper) for the seller and the buyer.	Local Flex involves Our Energy and several distributors co-designing pilot(s) to enable testing and refinement of a local flexibility market solution: <ul style="list-style-type: none"> an independent platform that enables distributors to broadcast and procure local flexibility engages with and recruits flexibility coordinators to register their flexible resources.
 Operate	#11 Explore the use of dynamic operating envelopes for managing access to the network.	Auckland Transport and Vector are collaborating to optimise network capacity by coordinating electric bus charging. Charging is coordinated within a network capacity envelope communicated by Vector.
	#35 Identify the coordination capability, roles and functions required for distributors and the System Operator to optimise network and power system operation.	FlexTalk tested the OpenADR 2.0 communication protocol to effect near real time communication between devices, flexibility coordinators and distributors to coordinate flexible resources.
	#36 Identify a common process for validation and settlement of services using flexibility to supply network services and ancillary services.	The Kainga Ora Multiple trading pilot is testing potential changes to market arrangements including reconciliation and settlement processes.