Business Case: Enabling a Consumer-Focused Transition

October 2023

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Introduction

This business case has been prepared in support of additional funding for the Electricity Authority Te Mana Hiko (the Authority) main appropriation: *Electricity Industry Governance and Market Operations*.[1] Electricity systems across the world are facing rapid transformation – New Zealand's electricity system is no exception. The global climate change imperative and associated shift to increasingly renewables-based generation combined with new and emerging technologies, digitisation and artificial intelligence have disrupted a previously stable industry in which change was incremental and largely predictable.

Industry is adapting and the pace and scale of change is unprecedented. Consumer attitudes and behaviours are also changing and will continue to evolve. New business models will allow them to take more control over their electricity and expectations of providers will shift as consumers expect more and different services to meet their energy requirements. The consumer of the future will be more connected and autonomous, as energy becomes more of a service dictated by consumer needs and behaviour. Increased consumer agency and participation requires regulation to keep up with technological change and for the regulator to be able to sense and anticipate what's on the horizon.

The challenges of a market shifting to more variable and intermittent generation;[2] new and many technological advancements; distributed energy resources and mass participation; two-way power flows in a system designed for one-way power flows; and the impact of extreme weather on infrastructure and resilience cannot be underestimated.

Regulation is at real risk of falling well behind the electricity sector and in doing so, delaying progress and potentially putting a handbrake on the transition to a net zero carbon emissions future. The Authority is struggling to keep up.

As the regulator, the Authority needs to be more proactive, and invest time and resources in monitoring emerging issues and trends and preparing for what's around the corner. Understanding and anticipating the future is essential for regulating through uncertainty and rapid change.

The Authority is funded for an electricity industry of the past and now needs investment to catch up. Consumers will benefit from a regulator who can see what's coming around the corner as well as the keep the power on through next winter. All stakeholders will have more confidence in a regulatory regime that has enabled transformation with minimal cost and maximum benefit.

New Zealand can and will learn a great deal from other countries experiencing a similar transformation. Equally, New Zealand's electricity system is well regarded internationally, and others will be looking at our response as we move to an increasingly renewables future. There are many unique attributes of New Zealand's electricity system and market that must be considered over the

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[1] The Authority has endeavoured to provide the necessary detail to support this business case. However, by necessity, this business case is based on information and a number of assumptions at a certain point in time. Accordingly, the Authority's views on future work and work priorities may change as the Authority needs to respond to additional information, competing priorities and any resourcing constraints that might arise. The business case should be read in this context.

[2] Intermittent, refers to output being intermittent depending on the weather, for example: no solar output when there is no sun. Variable refers to its output varying across the year changes based on the season, for example: fewer sunshine hours in winter relative to summer.

next few years and decades. We cannot necessarily replicate what others have done and expect it to work.

If electricity sector stakeholders – both domestic and international - see that the Authority is appropriately funded and able to discharge its responsibilities, they will have the confidence needed to make the multi-billion-dollar investments in the industry required to meet the challenges and opportunities ahead.

Importantly, the regulator can no longer operate in a silo. The electricity regulator is a critical part of an ecosystem of agencies and organisations dealing with systemic issues and external shocks. The Authority needs to work within and across this ecosystem, including with industry and consumers to identify the issues early, work through enduring solutions and deliver better outcomes. That takes time, capacity and expertise – all of which require an investment in the Authority to benefit the consumer of today and tomorrow.

The Electricity Authority is seeking funding in two parts.

1. **Part one:** The primary focus of this business case is additional funding for the Authority's operations. This business case sets out the drivers behind the need for more funding and the case for an increase including highlighting the intended benefit to New Zealand consumers and the economy.
2. **Part two:** Funding is also sought for a range of third party service provider contracts including the System Operator. These contracts and the services delivered under them are fundamental to the efficient functioning of the electricity system and markets. Under current arrangements, increasing the amounts paid under these contracts reduces the amount of funding available for the Authority's operations. That is not a sustainable. Holding their funding at current levels is also not sustainable given the changes and challenges that they must address.

Four funding options are considered in this business case:

- Option 1 - no increase in operational funding[3]
- Option 2 - relieving pressure
- Option 3 - enabling a consumer-focused transition
- Option 4 - leading a consumer-focused transition.

The business case comprises five main parts:

1. Strategic case - the drivers and case for change
2. Economic case - description and assessment of the four options with a view to optimising value for money
3. Commercial case - an assessment of the extent to which the service providers have the capacity and capability to support the Authority in implementing the preferred option
4. Financial case - the financial implications of the preferred option
5. Management case - an assessment of the Authority's ability to implement the preferred option.

Background

Before the current financial year (2023/24), the appropriation for the Authority had not changed significantly since its establishment in 2010. The change in the Authority's operating funding from 2012 to 2023 represents a nominal increase of less than 1.5% per annum. These earlier funding increases were incremental in nature reflecting the relatively slow pace of change in the electricity

[3] Funding is sought for third-party service providers and this is common across all of the options. This is discussed in the Economic Case.

system. The environment in which the Authority operates is now fundamentally different. Developments in the way the electricity system and markets work are occurring at pace and are significant in their nature. Current funding means the Authority cannot keep pace with the changes.

The inflation impact of third party contracts over the past four years was $3.1m. This has directly reduced the available funding for the Authority's operations. The future impact of this is a further $6m over the next five years[4].

Drivers of change

The drivers of change and which spur the need for additional funding can be summarised as follows:

- the transition to a net zero emissions economy. This is fundamentally changing the composition of electricity supply, and these changes are, in turn, driving significant change in the way the electricity system and electricity markets work. Regulatory settings must adapt to the changing environment to ensure the regulatory regime does not become a handbrake, while at the same time providing for a stable and predictable regulatory framework during the transition to both enable and guide the transformation.
- innovation and new technologies are, and will continue to, impact the way the system and markets work. Regulatory change is critical to enable and fully realise the benefits of innovation and new technologies.
- changes in technology are also impacting the way the system and markets work. These changes are contributing to the need for regulatory change and putting pressure on Authority resources to respond in addition to the existing to the workload.
- the statutory objectives of the Authority have been extended to include protecting the interests of domestic and small business consumers. With increasing powers comes more work to better understand and respond to the issues and concerns of these groups.
- there are signs there is a gap between stakeholders' expectations and their perceptions of the Authority. There is work to address this and to improve engagement with stakeholders to build trust in the system and in the regulator.
- a recent baseline review (conducted by Sapere for the Ministry of Business, Innovation and Employment) identified a number of areas for improvement, which the baseline review notes that the Authority is also aware of, and for many areas, work is underway to address. The review noted that the Authority is facing funding pressures.

The case for additional funding

If levy payers are asked to pay more, they, and New Zealand more generally, will rightly expect to realise an equal or greater amount of benefit for that.

The value proposition that is reflected in this business case and which underpins the case for change has three main components all of which, ultimately, support the Authority to meet its statutory objectives:

- More effective – delivery of more benefits for consumers
- Drive efficiency – including addressing areas for improvement identified by Sapere
- Reduce risks – minimise the risk of disorderly transition and adverse/unwanted consequences (if relying on current funding).

The Authority is conscious of the current fiscal environment and the pressure on households and businesses. The requested additional funding is a necessary investment to avoid the potential impact

[4] Sapere (2023), p77

of a slow, disorderly transition to a net zero carbon future. The small increase to annual bills will support better outcomes and access to affordable electricity for all consumers now and in the future.

Preferred option

Each of the four options that have been assessed as part of this business case carry different implications for effectiveness, efficiency and risk. The table on the following page summarises the assessment and presents the cost associated with each option. The Authority recommends Option 3 primarily because it enables the Authority to effectively enable a consumer-focused transition that:

- allows the Authority to make a much more effective contribution to its statutory objectives and deliver on its strategic ambitions
- delivers benefits to consumers well in excess of costs
- reduces the risks of the transition to a net zero carbon economy.

That said, the Authority also views Option 4 as having a lot of merit. However, that option is more challenging to implement in the near term. Accordingly, it is viewed as an option more suited to the medium term following the implementation of Option 3.

Table 1: Electricity Authority Business Case Funding options - Option summary

The Authority engaged PwC to complete the funding component its baseline review in the form of a business case that is structured along the lines of the Better Business Case (BBC) framework. The following table represents the funding options that resulted from this work. MBIE and Sapere have provided feedback on this business case.

The Authority has been funded for an electricity industry of the past and now needs investment to catch up, keep up and stay ahead of a changing electricity system. We're seeking an uplift to our baseline funding to enable an efficient transition to a net zero carbon future at least cost to consumers.

The previously stable electricity industry is undergoing transformation at an unprecedented scale and pace. We no longer have the benefit of time or stability. Regulation is at real risk of falling well behind the electricity sector and in doing so, delaying progress and potentially putting a handbrake on the transition to a net zero carbon emissions future. More funding will ensure we catch up and keep up with the scale and pace of change required by the sector to keep the lights on and make sure all New Zealanders benefit including consumers of the future who will be more connected than ever before.

The additional cost to consumers of the preferred option (option 3) is minimal:

- An extra $4 to 5 a year to the average household electricity bill – about 40 cents a month.
- About $28 more a year for the average commercial entity – about $2.33 a month.

The Authority is conscious of the current fiscal environment and the pressure already on households and businesses. The requested additional funding is a necessary investment to protect electricity consumers from unnecessary price spikes in the short, medium and long term and enable them to reap the benefits of innovation and competition at least cost, while receiving a reliable power supply. The small increase to annual bills will support better outcomes and access to affordable electricity for all consumers now and in the future.

	Option 1 **No increase in operational funding**	**Option 2** **Relieving pressure**	**Option 3 (preferred option)** **Enabling a consumer-focused transition**	**Option 4** **Leading a consumer-focused transition**
Increase in service provider costs from 2023/24 ($m)	$7.6m *(solely service provider cost increases)*	$7.6m *(solely service provider cost increases)*	$7.6m *(solely service provider cost increases)*	$7.6m *(solely service provider cost increases)*
Increase in Authority operating costs ($m)	$0.0m	$6.6m	$16.5m	$25.4m
Total GMO funding ($m)	$108.4m *(increase of $7.6m on 2023/24 appropriation)*	$115.0m *(increase of $14.2m on 2023/24 appropriation - of which $7.6m is for service provider costs, and $6.6m is for Authority operating costs)*	$124.9m *(increase of $24.1m on 2023/24 appropriation - of which $7.6m is for service provider costs, and $16.5m is for Authority operating costs)*	$133.8m *(increase of $33.0m on 2023/24 appropriation - of which $7.6m is for service provider costs, and $25.4m is for Authority operating costs)*
Estimated additional annual levy to consumers **(from 2023/24)**	$1.45 for the average household *($1.45 for service provider contracts, and $0.00 for Authority operations)* $8.73 for the average commercial entity *($8.73 for service provider contracts, and $0.00 for Authority operations)*	$2.76 for the average household *($1.45 for service provider contracts, and $1.31 for Authority operations)* $16.32 for the average commercial entity *($8.73 for service provider contracts, and $7.59 for Authority operations)*	$4.82 for the average household *($1.45 for service provider contracts, and $3.37 for Authority operations)* $27.59 for the average commercial entity *($8.73 for service provider contracts, and $18.86 for Authority operations)*	$6.64 for the average household *($1.45 for service provider contracts, and $10.01 for Authority operations)* $37.75 for the average commercial entity *($8.73 for service provider contracts, and $29.02 for Authority operations)*

Estimated total annual levy to consumers	$21.98 for the average household $130.81 for the average commercial entity	$23.29 for the average household $138.40 for the average commercial entity	$25.35 for the average household $149.67 for the average commercial entity	$27.17 for the average household $159.83 for the average commercial entity
Total FTE employees	132.0 (no change from 2023/24)	157.5 (25.5 additional FTE employees from 2023/24)	196.0 (64 additional FTE employees from 2023/24)	231.5 (100.5 additional FTE employees from 2023/24)
Impacts	Option 1 has no material changes to the current state and no change in funding for the Authority's operations. Under this option, consumers and the industry can expect slow regulatory change and potential delays to rules that unlock the potential of innovation, future mass participation, distributed energy resources and services. The Authority is: • reactive and cannot get ahead of issues • only able to take a short-term view • able to continue work already prioritised (including the Future Security and Resilience programme) but has no capacity to accelerate initiatives already slowed or deferred • able to continue to deliver activities and services at the same level but in the face of an electricity system that is on the verge of a once in a generation transformation • not able to respond to major unplanned events (such as an Undesirable Trading Situation (UTS)) without significant disruption to business-as-usual activities • not able to undertake a fundamental review and modernisation of the Code • less able to reduce its reliance on external consultants, as less able to build this capability internally, being less reactive to issues, and being able to respond to unexpected issues.	Option 2 provides funding to address acute pressure points. Under this option, consumers and the industry will have more of a voice in regulatory decision making through more engagement, system pressures will be managed and immediate areas of concern responded to. There will be benefits of enabling new technologies and changes to market operations. The Authority is: • reactive, yet able to keep pace with changes to policy, rules and the Code, necessitated by the transition and changing technology • able to speed up work on Consumer Care Guidelines although progress with some consumer initiatives would still be at slow pace (eg, options for additions to and/or alternatives to Powerswitch) • able to step up compliance activity but mostly focused on enforcement (responding to non-compliance) rather than education (preventing non-compliance) • able to undertake more quantitative analysis to provide better insights and develop forward looking scenarios • able to make some progress with stakeholder engagement including with other regulators, the sector and with government agencies that are working on energy, climate, resiliency issues • able to make more progress with the Sapere baseline review recommendations albeit at variable speed and with some exceptions - notably on fundamental review and modernisation of the Code.	Option 3 provides funding that enables the Authority to broaden its work programme and progress at a faster pace. Compared to Option 2, under this option consumers and the industry can expect inclusive and timely decision making on what matters most now and in the medium to long term. Our most vulnerable consumers will see the Authority and other agencies joined up to take a systems response to energy hardship. There will be significant progress towards realising the full benefits of enabling new technologies and changes to market operations. The Authority is: • an enabler of a consumer-focused transition • more future-focused with a forward view of system and market requirements • a more proactive regulator - starting to anticipate issues before the sector brings them to the Authority (eg, investigate a regulatory regime for renewable energy certification) • more aware of the industry environment and international developments - proactive advice to senior leadership and Minister, and starts to consider work that will target opportunities before they potentially evolve into issues with large impacts • more consumer centric - can serve the needs of smaller groups and individuals in a more tailored way, rather than approaches that are generic across the market as a whole • more resilient - it has more capacity to deal with unplanned issues and events when they arise without major disruption to	Option 4 builds on Option 3 and is more medium-term in nature. The funding under Option 4 enables a further expansion of the scope of activity but also changes in how the Authority approaches its work. Under this option, consumers reap the benefits of regulation that enables innovation while improving outcomes for all New Zealanders. Industry will be able to move faster and will be working alongside the regulator to stay ahead of change and provide energy as a service. The Authority is: • a leader, rather than enabler, of a consumer-focused transition and is able to deliver a more orderly transition and where the benefits and costs to consumers are respectively maximised and minimised • a system steward – monitoring and assessing the "health" of the regulatory system and much more proactive in its engagement with other regulators and organisations that have roles to play in the functioning of the electricity system and markets and protecting the interests of consumers. • a much more proactive regulator – identifying issues before they happen and providing timely advice on potential solutions, leading industry through information and education • strongly future focused - considers a long term horizon when making decisions and prioritisation of activities • future proofed - much better placed to absorb and address growth in demand of

	Significant benefits of enabling new technologies and changes to market operations will not be fully realised. Examples include: • Sapere estimated that if Distributed Energy Resources were to realise their potential in full, the benefits from 2021 to 2050 would be $6.9 billion • the benefits of Real time Pricing are estimated to be between $3.8 million and $19.1 million.		existing work • able to address all of the Sapere baseline review recommendations that are aimed at improving effectiveness and efficiency • able to reduce its reliance on external consultants through building capability internally, being less reactive to issues, and being able to respond to unexpected issues • better placed to engage in medium/longer-term strategy and planning given greater funding certainty • helping ensure a stable regulatory framework during the transition • building trust in the system and in the regulator.	the organisation as the transition progresses • much better placed to engage in medium/longer-term strategy and planning given greater funding certainty • highly resilient - more capacity to address unplanned issues without undue disruption to business-as-usual activity. Unless something major and unexpected occurs, the Authority is unlikely to have a need to seek additional funding over the medium term (eg, four years) which, in turn, helps to provide levy payers with a greater degree of certainty around their funding obligations • efficient and effective, over and beyond- the Authority fully addresses all Sapere report recommendations, as well as even more to support being an effective and efficient regulator.
Risks	High risk the transition becomes disorderly resulting in higher costs, and fewer realised benefits, for consumers. High risk of reduced security of supply, lower investment, higher costs and, ultimately, higher prices for consumers. Critical risk of timing delays to requests for change, key projects and regulatory maintenance (Code updates). Risk of losing trust and licence to regulate/operate. Risk of a piecemeal response that reflects reactiveness, that deals with individual issues not looking collectively at system or industry wide solutions, which is potentially in conflict with other regulatory settings and results in perverse outcomes. Increased risk of lack of understanding of existing and emerging issues due to insufficient engagement with other regulators, the sector and consumer advocacy groups.	Compared to Option 1, some but lower risk, the transition to net zero results in higher costs and fewer realised benefits to consumers. There is still risk that progress with some projects/initiatives and responses to requests for Code changes will be slow (but the extent of this less than Option 1) which means an ongoing risk of the Authority being a handbrake on the transition Less risk of pressure on the system including winter peaks. Ongoing reputational risk that stakeholder expectations of the Authority are inconsistent with what the Authority can deliver and consumers and industry lose confidence in the regulator Risk due to limited engagement, the Authority does not capture the views of all consumers, leading to a perpetuation of issues that prove to be more costly to resolve in the longer term Risk of limited alignment with other government agencies/industry participants leading to an approach that is not joined up, or worse, in conflict Risk to being able to execute in changing ways of working at a critical point in time – to a more programmatic way of managing issues, more collaboration with the sector for problem definition, an approach to solving problems, and being more	Compared to Option 1 and Option 2, there is significantly reduced risk as regulation keeps pace with change, enables more investment and more participation in the market and the potential of distributed energy resources for individuals, communities and the country are realised. Much less risk of being unable to keep up with the pace of change. Much less risk of significant disruption when having to respond to major unplanned events. There is some risk in terms of being able to successfully implement Option 3 (including large number of new personnel that need to be recruited) but the Authority considers it is able to effectively manage these risks.	Option 4 presents the lowest risk in terms of the success, as measured by trying to minimise the costs and maximise the benefits to consumers, of the transition. However, it has higher implementation risk than Option 3, but the risks are mitigated if implementation is staged over the medium term.

		agile in nature.		
Strategic alignment				
Economic alignment				
Commercial alignment				
Financial alignment				
Management alignment				
Baseline review report alignment				
Overall assessment	Option 1 is not recommended	Option 2 is not recommended	**Option 3 is the Authority's preferred option**	Option 4 is viable medium term option

Table 2 Allocation of new FTE across options by business unit

Allocation of NEW FTE across options by business unit

New FTE are denoted incrementally	Current state	Option 1	Option 2	Option 3	Option 4
Market Operation Policy + Real Time Pricing	8.4	0	2	2	2
Wholesale Market Competition	13.4	0	1	2	1
Future Security & Resilience	6.2	0	1	1	1
Consumer Care	6.0	0	1	3	5
Distribution regulatory reform	5.2	0	2	4	3
Network Pricing	7.0	0	2	3	4
Legal	8.5	0	2.5	1.5	3
Compliance	12.5	0	3	3	3
Monitoring	14.3	0	1	4	4
Organisational Performance & Delivery	11.7	0	1	3	1
System Operator oversight / commercial	6.6	0	1	1	1
People & Capability	8.0	0	2	2	1
Data & Information Management	10.6	0	2	3	1
Communications & Engagement	9.6	0	2	3	1
Office of the CE	4.0	0	0	1	3.5
New Market Policy Team	0.0	0	2	2	1
Incremental New FTE	**0**	**0**	**25.5**	**38.5**	**35.5**
Accumulative Total FTE	**132.0**	**132.0**	**157.5**	**196.0**	**231.5**

Table 3 Summary appropriation required by option

(expressed in millions of dollars ($m))			Preferred option	
	Option 1	Option 2	Option 3	Option 4
Existing appropriation	$100.8m	$100.8m	$100.8m	$100.8m
Authority operations (above 2023/24)	$0m	$6.6m	$16.5m	$25.4m
Third party service providers (above 2023/24)	$7.6m	$7.6m	$7.6m	$7.6m
Total appropriation sought	**$108.4m**	**$115.0m**	**$124.9m**	**$133.8m**

Table 4 Total expenditure by core regulatory function: All options

(expressed in millions of dollars)	Total	2024/25 Option 1	2024/25 Option 2	2024/25 Option 3	2024/25 Option 4
Promote market development	$11.2	$11.2	$14.1	$18.0	$22.4
Monitor, inform and educate	$6.1	$6.1	$7.2	$9.4	$10.8
Protect the interests of small consumers	$4.1	$4.1	$5.0	$6.8	$8.4
Operate the electricity system and markets	$75.8	$83.4	$84.3	$85.0	$85.5
Enforce compliance	$3.6	$3.6	$4.4	$5.7	$6.7
Total Authority costs	**$100.8**	**$108.4**	**$115.0**	**$124.9**	**$133.8**

The Authority's expenditure has been attributed to its core regulatory functions, as detailed above. The allocation methodology attributes personnel and external costs directly to the appropriate function where directly linked, but costs which do not have a direct link are treated as overheads, eg office rent costs or support staff costs. Overheads are allocated to our core regulatory functions based on an appropriate underlying measure eg full-time equivalent employees.

Introduction

This business case has been prepared in support of additional funding for the Electricity Authority's (the Authority) main appropriation: *Electricity Industry Governance and Market Operations*. Before the current financial year, the appropriation for the Authority had not changed by much since its establishment in 2010. The change in the Authority's nominal operating funding from 2012 to 2023 represents an increase of less than 1.5% per annum (less than the average annual rate of inflation).

Earlier changes to funding were incremental in nature reflecting the relatively slow pace of change in the electricity system. The environment in which the Authority operates is now fundamentally different.

Developments in the way the electricity system and markets work are occurring at pace and are significant in their nature. The changes are being driven by:

- decarbonisation: decarbonisation of the electricity industry and wider economy
- decentralisation: increased adoption of new technologies such as solar panels, batteries and applications to control electricity use (also known as distributed energy resources (DER))
- digitisation: the use of smart, digital technology to harness, control and automate DERs and the growth in artificial intelligence.

Like the rest of the country, the electricity system is facing the impact of climate change and global shocks with more extreme weather events and fuel shortages testing the resilience of the industry and infrastructure, and how to prepare for the future without placing additional financial burden on New Zealanders.

The Authority is conscious of the current fiscal environment and the pressure already on households and businesses. The requested additional funding is a necessary investment to protect electricity consumers from unnecessary price spikes in the short, medium and long term and enable them to reap the benefits of innovation and competition at least cost, while receiving a reliable power supply. The minimal increase to annual bills will support better outcomes and access to affordable electricity for all consumers now and in the future.

A two-phase consultation process

In mid-2022 the Authority determined that an uplift in funding was required to meet our regulatory objectives and enable the transition to a low-emissions economy. The Authority liaised with MBIE and Treasury to determine the process to effect this change, and in September 2022 the Minister for Energy and Resources (the Minister) wrote to the Authority supporting a two-phased consultation on a proposed levy increase. Phase one involved consulting on an increase for 2022/23 and 2023/24 in October 2022. Following this consultation, in February 2023, the Minister approved an increase of $0.500 million for 2022/23 and $4.600 million for 2023/24. [5] This increase has been used to focus on the future security and resilience multi-year programme and establish an operational policy team to work closely with the System Operator on the immediate pressures facing the electricity system including winter peaks and ensure the implementation and uptake of critical changes such as real-time pricing (a more detailed breakdown is provided in the *"Work programme and allocation of funding"* section). A further $1.5m has been applied to CPI increases on market operations contract payment and $0.2m for small consumer support.

Phase two involves consulting on a refinement of the previously advised increase. The proposed increase is informed by the strategic baseline review (which has confirmed the case-for-change and has informed the proposed level of additional funding required) and based on the preferred option of this business case. MBIE commissioned Sapere to complete the baseline review. The review has recently been completed. The review highlights in multiple places the cost, service and other funding pressures facing the Authority:

- "*The Authority faces a quite different environment than when initially established, with significant medium-term dynamics that will have implications for the Authority (posing cost pressures as well as opportunities) and pose risks to reliability.*"
- *In essence, the Authority's funding has been suitable for historically flat demand and incremental changes, but recent events require an expansion of the Authority's scope of work*".
- *"It is also operating in a significantly different environment in the last four or so years, for instance with the establishment of the Climate Change Commission and release of first Emissions Reduction Plan, the unexpected outage at the Pohokura gas field in 2018, and more recently increases in UTS claims. Of particular focus are the challenges presented to the electricity sector in the transition to a low emissions economy".*

The funding sought via this business case will better enable the Authority to anticipate and address increasing issues facing the electricity industry and ensure consumers benefit from a competitive, reliable and efficient electricity industry.

Additional funding will enable the Authority to deliver to meet its regulatory responsibilities and priorities without the risk of delays to critical workstreams and/or delivery of its core regulatory functions (all of which are discussed further in the strategic case below). Importantly, additional funding will help manage the risks and opportunities associated with the transition to a net zero emissions economy and in doing so contribute to productive economy in which New Zealanders prosper. The funding sought will provide the Authority with the capacity and capability to enable a decarbonised New Zealand at least cost to consumers.

Structure of the business case

This business case is structured along the lines of the Better Business Case (BBC) framework to demonstrate why the funding is needed and the benefits of investment. The BBC includes a:

- strategic case (the case for change)
- economic case (achieving the best value for money)
- commercial case (capacity and capability of third party providers to support the Authority in its work)
- financial case (affordability)
- management case (achievability).

The business case has followed the intent, rather than strict letter, of the BBC framework and guidelines. The amount of funding being sought and the nature of the purposes for which funding is sought do not require the level of detail expected in a business case for, say, a major infrastructure project involving tens or hundreds of millions of dollars.

The Authority has endeavoured to provide the necessary detail to support this business case. However, by necessity, this business case is based on information and a number of assumptions at a certain point in time. Accordingly, the Authority's views on future work and work priorities may change as the Authority needs to respond to additional information, competing priorities and any resourcing constraints that might arise.

The business case should be read in this context. The electricity industry and the work of the Authority involves many technical terms that are often summarised by way of acronym. A glossary is provided at the end of the business case to assist readers to understand the meaning of these acronyms.

Process for developing the business case

At the core of the business case lies an articulation of the drivers and case for change (set out in the strategic case) followed by the development and assessment of four options (set out in the economic case) for the future funding of the Authority including the option of no additional funding other than for increases to third party service contracts. The process for developing the case for change has involved:

- drawing on the Authority's ongoing analysis of current and likely developments in the electricity sector and their implications for reliability of supply, the competitiveness of markets and benefits for consumers
- determining the steps and initiatives that need to be worked through to effectively and efficiently support the transition to a net zero carbon emissions economy and the role that electricity plays in fostering economic growth
- considering reprioritisation and new ways of working to operate more efficiently to fund new higher priority work programmes from current levels of resourcing
- listening to, and actively responding to, a range of stakeholder feedback regarding the Authority including, for example, concerns the regulator is lagging behind developments (for example, technological change) and is at risk of hindering rather than facilitating the transition
- identifying the steps the Authority needs to take to meet changes in its legislative mandate (ie. Giving much stronger focus to protecting the interests of domestic and small business consumers)
- taking into account the findings of the recently completed baseline review.

As set out in the economic case, four options for the future level of funding for the Authority have been developed and assessed. The process for developing the options has involved a mix of top-down strategic direction (from the Board and senior leadership team) blended with bottom-up input from across the Authority's business units to identify options for the nature and scope of work that is needed to address the drivers for change.

Managers within the business units were required to answer standard budget initiative questions, such as:

- **What are the drivers of the additional work (ie, what is the problem or opportunity)?** For example, legislative requirements, market demand, organisational strategic priority, general cost pressures, and reducing risk (eg, of service failure).
- **What are the marginal benefits from the work that the additional resource will provide?** For example, improve trust and confidence relative to the counterfactual.
- **How does this align to the Authority's strategy?** That is, how does this contribute to the Authority's statutory objectives and strategic ambitions.
- **What are the risks if this additional resource was not provided?** For example, impacts on competition, disorderly transition to a low-emissions economy.

- **What are the assumptions underpinning the estimation of additional resource requirement?** For example, if two extra FTEs are needed, what's that based on?
- **Why can't this be funded from your existing Budget and what steps have been taken to fund the workstream?** For example, outline any cost savings to be more efficient in recent years (last 2 years).
- **Are there any pre-conditions/dependencies regarding any aspects of each option?** That is, does something need to happen first before it makes sense to add additional resource?

This provided a starting point to prioritise the work within and across teams based on the following factors (with a descending level of weighting):

- **Alignment to the Authority's strategy.**
- **Maintaining day to day confidence in the system and rules.**
- **The size of the marginal benefits the work will generate (which includes efficiency gains and cost savings), with priority given to work that maintains the security and reliability of the electricity system and keeps the power on.**
- **Legislative obligations.**
- **Opportunity cost or risk of inaction.**

The factors listed above that help to inform priorities are effectively the same as those the Authority has regard to when unexpected events occur, and the use of resources has to be reprioritised. For example, resource was moved from the review of wholesale market competition to assist with the 10 November 2019 UTS investigation[6]. The UTS investigation had to be prioritised as the Authority investigates all UTS claims as part of ensuring confidence in, and the integrity of, in the wholesale electricity market. This was despite the wholesale market review also being a high priority in terms of ensuring a competitive wholesale market. The information generated by business units as part of the baseline review process was used to inform a series of workshops involving the senior leadership team and a small number of other senior managers. The workshops were facilitated by independent advisers from PricewaterhouseCoopers who have assisted, more generally, with the production of the business case.

The first workshop focused on developing the four options. In brief, this included:

- a consideration of what could be delivered and achieved within existing funding, including why can't high priority work programmes be funded from existing budgets (Option 1)
- identification of the Authority's best view of what needs to be done to support the transition and ensure the Authority has the capacity and capability to efficiently and effectively discharge its regulatory responsibilities (Option 3 – preferred option)
- a scaled back version of Option 3 recognising the challenging economic conditions currently facing New Zealand (Option 2)

[6] UTS 10 November 2019 | Electricity Authority (ea.govt.nz)

- an option that is more medium-term in its outlook and which positions the Authority as a leader, rather than enabler, of the consumer-focused transition and strengthens its system stewardship roles (Option 4).

The second and third workshops assessed the options, and refined their scope, with a view to identifying a preferred option that optimises value for money. Overall, the workshops provided the opportunity to:

- challenge and refine the nature and scope of the options
- identify options for reprioritisation of existing resources, and opportunities to operate more efficiently
- undertake moderation
- ensure that the scope of activity under each option was coherent and consistent (eg, ensuring that inter-dependencies between initiatives were taken into account)
- understand the benefit, risk and cost implications of each option recognising that the trade-offs between these dimensions are a core part of optimising value for money.

The outputs from the workshops underpin the description and assessment of each option as set out in the economic case and the business case more generally.

Draft versions of the business case have been circulated to relevant Authority staff and the Board for review and comment which has been incorporated as appropriate. A draft version of the business case has also been provided to the Ministry of Business, Innovation and Employment for review and feedback (which has also been incorporated as appropriate).

Strategic Case

Introduction

The purposes of the strategic case are to set out the main drivers of change and then to present the case in support of additional funding for the Authority's operations (separate to an increase in funding for third-party contracts). To put this into context, it is helpful to briefly recap on the Authority's statutory objectives and strategic ambitions all of which support the Authority's purpose which is to "*Enhance New Zealander's lives, prosperity and environment through electricity*".

Background - statutory objectives and strategic ambitions

Under the Electricity Industry Act 2010 (the Act), the main objective of the Authority is to "*promote competition in, reliable supply by, and the efficient operation of, the electricity industry for the long-term benefit of consumers."*

A recent amendment to the Act (December 2022) has added a further objective to "*protect the interests of domestic and small business consumers in relation to the supply of electricity to those consumers."*

These objectives are accompanied by the strategic ambitions of the Authority, as outlined in the Authority's Statement of Intent 2021-25 (amended June 2023):

- We want consumer centricity to guide regulation and the industry
- We want low-emissions energy to electrify the economy
- We want to build trust and confidence in the industry for all stakeholders
- We want to see thriving competition delivering better outcomes for New Zealanders
- We want to see innovation flourishing.

These objectives and strategic ambitions supported the work plan of the Authority. The case for change, and business case in support of additional funding rests, in large part, on opportunities to make a stronger contribution to statutory objectives and better support and align with the five strategic ambitions summarised above.

The work of the Authority is also informed by the Government's expectations of it, noting that as an independent crown entity, the Authority is independent of government when exercising its regulatory responsibilities. In this regard, the 2023-24 Letter of Expectations (LoE) from the Minister of Energy Resources to the Electricity Authority includes:

- Addressing recommendations related to the 9 August 2021 event[7] to maintain confidence in the market and ensure security of supply in Winter 2023 and beyond
- Monitoring the exercise of market power in the wholesale electricity market and increasing the focus on the Authority's compliance function
- Continuing to support the continued growth of renewable generation, sufficient firming capacity and demand-side participation
- Maintaining focus on the regulatory settings for the distribution networks, including how connections costs and pricing for public electric vehicle (EV) chargers can facilitate the electrification of transport, and how access to metering information can better support demand flexibility.

[7] A major outage event that led to a ministerial inquiry

- Delivering improved outcomes in relation to the Authority's additional objective to protect the interests of domestic and small business consumers
- Monitoring retailers' conduct regarding vulnerable consumers and prompting payment discounts and late payment fees and support broader sector initiatives, such as the Consumer Advocacy Council, Energy Hardship Expert Panel, and the Energy Hardship Reference Group.

In addition to entity-specific expectations, the Government also has a set of enduring expectations, the latest version of which were issued in 2019 (an update of expectations issued in 2012). Not all enduring expectations are repeated here but two of them are worthy of specific mention because they relate directly to aspects of the Authority's work where little or no progress has been made. This is discussed more fully in the business case section and, in particular, with reference to the options included in the economic case).

Supporting future-focussed Māori Crown relations

The Government expects Crown entities (including the Authority) to embody good faith and collaborative approach to Māori Crown relationships by:

- Engaging appropriately and often with Māori on relevant issues
- Pursuing further opportunities for partnership with Māori entities and businesses
- Building staff's Māori cultural capability including knowledge of tikanga Māori, Te Ao Māori, New Zealand history and how to address institutional racism
- Improving the treaty-consistency of policy and practices
- Supporting the maihi karauna by promoting and supporting the revitalisation of te reo Māori

Contributing to improving living standards and wellbeing

The Authority's purpose statement is to "*Enhance New Zealanders' lives, prosperity and environment through electricity*" and, in this regard, the Authority's purpose is strongly aligned with the Government's focus on improving living standards and wellbeing. There is a need, however, to ensure the Authority's work also aligns with the Government's intent for a wellbeing approach to be embedded across the public sector. To this end, the Authority is mindful of the Government's expectation regarding the need to take a whole of government approach which, as set out in the enduring expectations, means stepping out of the silos of agencies and working seamlessly together to assess, develop and implement plans to improve living standards.

Regulation of the electricity sector is not something the Authority can do in isolation. The regulatory system comprises other regulators and agencies that play important roles in the overall functioning of the electricity regulatory system as well as extending to other agencies that play a critical role in issues of climate change, resilience and energy hardship. The Authority's interactions with other agencies will need to increase to collectively address complex issues facing consumers now and into the future. Improving how the agencies work together is important for the effectiveness of the system, to avoid duplicated effort and to ensure a system-wide response to improving outcomes for consumers and unnecessary cost to consumers. This is one aspect of the drivers, and case, for change.

Alignment to MBIE's work programme and other energy regulators

In Budget 2022 the Ministry of Business, Innovation & Employment (MBIE) received $22.899 million from the Climate Emergency Response Fund to support the transition to a renewable electricity system and a lower emissions energy system. More specifically, this is to:

- fund the development of a national energy strategy,
- fund the development of a regulatory framework for offshore renewable energy,
- fund the development of a roadmap for development and use of hydrogen,
- develop and implement electricity market measures that support reliable and affordable electricity supply while accelerating the transition to a highly renewable electricity system, and
- explore and facilitate public sector procurement of renewable electricity via long-term power purchase agreements.

The work outlined in this business case complements and provides the necessary foundation on which MBIE can complete the above projects. For example, the Authority's proposed work on preparing distribution networks for the future, maximising the value of DER, and improved system operator oversight, lay the foundations for a national energy strategy by ensuring a competitive, efficient, and reliable electricity system. Though, the work outlined in this business case also stands independently from that of MBIE.

The Authority will also continue to engage actively with the Energy Efficiency and Conservation Authority (EECA) and the Commerce Commission to ensure the regulatory system supports service innovation and consumer choice, more renewable electricity generation, low costs and reliability.

The Authority is a member of the Council of Energy Regulators (CER), which includes the aforementioned agencies, plus the Gas Industry Company (GIC). The CER meets regularly to oversee the electricity and gas markets regulatory system, as a means to ensure their respective activities and processes remain aligned and coherent in the face of market developments.

The Authority's regulatory strategy

An independent regulator is appointed by Government to govern or manage complex systems on behalf of the public. The intent is for the regulator to steward the system so that it produces desired or beneficial outcomes that might not occur naturally through pure market forces. As outlined in the enduring of letter of expectation for Crown Entities[8], regulators are often now expected to think more broadly about the wider environment and the interaction of their sector with others – considering long-term economic, social, cultural, and environmental implications together – and embed principles of the Te Tiriti o Waitangi to ensure the right rules are in place that both enable and guide change.

This section outlines the Authority's current regulatory strategy. The Authority completed a strategy refresh in 2020 in response to a shift in expectation and increased external pressures. The strategy was developed alongside industry, agencies and other interested parties and included the Authority's purpose and five strategic ambitions that guide the prioritisation of the Authority's work (outlined in more detail below).

The Authority agrees with the baseline review's recommendation that there needs to be a clearer link between strategy and the Authority's work programme going forward, including a prioritisation framework. It also agrees the Authority's strategic outlook needs be longer-term.

[8] Enduring-Letter-of-Expectations-to-Statutory-Crown-Entities.pdf (publicservice.govt.nz)

The Authority intends to revisit its strategy considering the additional objective to protect small consumers, more information about the impacts of the transition to net zero, and a desire from the Authority to take a more medium-to-long term strategic approach. The Authority Board and senior leadership team have initiated the discussion on a longer-term strategy however developing and implementing a comprehensive medium-to-long-term regulatory strategy requires dedicated resource and time and engagement from management and the Board. Progress will be contingent on receiving additional resources otherwise the Authority would need to reprioritise senior resource away from other higher priority work.

The Authority is working to improve the transparency of its work programme and its prioritisation through actions such as consulting on its work programme for 2024/25 alongside levy consultation (which hasn't been done since the 2019/20 year), publishing a consultation calendar and reinstating the regulatory managers meeting, which enables industry participants to ask questions of the Authority of progress on its work programme.

The Statement of Intent 2021-2025 sets out the strategic framework. The framework includes the five strategic ambitions agreed as part of the 2020 strategy refresh.

- **Low-emissions energy:** We are focused on unlocking the potential for more renewable generation. We work hard maintaining, developing and implementing market rules that give investors confidence and signal where additional generation is required. We need to promote a stable investment environment with robust roles and clear price signals. This will ensure the transition is as efficient as possible while maintaining energy security, system adaptability, and affordable electricity for consumers.
- **Thriving competition:** We encourage participation and reinforce competition in traditional and emerging markets by putting in place the mechanisms needed to maintain a level playing field. Our regulatory environment needs to enable participants to better manage risks and provide consumers value for money through a growing range of innovative products, services, and opportunities to participate.
- **Consumer centricity:** We create long-term benefits for consumers through development of market-oriented solutions to place downward pressure on price, embrace new technology and enhance consumers' choice of plans, packages, and retailers.
- **Innovation flourishing:** We help unlock the full benefits of innovation for consumers by making sure the settings are conducive to innovation and industry success. This demands a proactive, agile, and forward-looking regulatory approach to match the pace of change and help innovation flourish.
- **Trust and confidence:** We seek to actively build trust and confidence in the industry and regulation through greater transparency, understanding and improved behaviours. Consumers expect participants to be held to account to rules designed to provide benefit to consumers. Participants require a stable investment framework and regulatory environment to enable decision making that will deliver further benefit to consumers.

We link our statutory objectives to the strategic ambitions using competition, reliability, efficiency and protection of small consumers as regulatory tools to drive the success of all five ambitions.

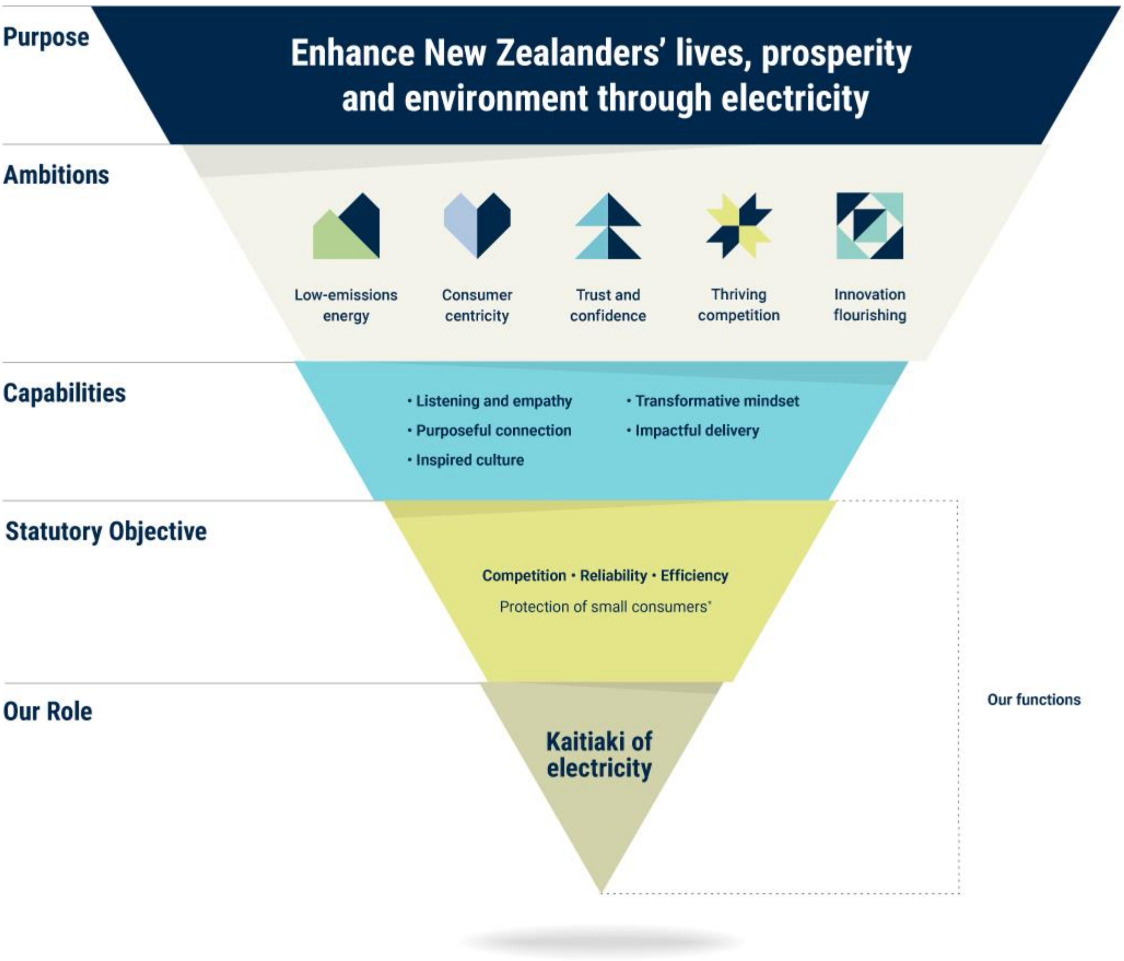
Underpinning the strategic framework are the Authority's statutory operating functions. The Act sets out the Authority's functions, describing the activities they perform and the tools through which the Authority can pursue its statutory objective and ambitions. They can be summarised into five main regulatory functions, as set out in its Statement of Intent:

- Promoting market development through market facilitation measures and amending the Code

- Protecting the interests of domestic and small business electricity consumers
- Day-to-day operation of the electricity system and markets, including contract management with the System Operator to ensure coordination in real time of supply and demand in the wholesale market
- Enforce compliance by ensuring that the Act, regulations under the Act, and the Code are followed by electricity industry participants
- Monitor the market, inform and educate market participants through making tools and information available.

Everything the Authority does relates back to one or more of the statutory functions and each option in the business case demonstrates how additional resourcing will contribute to each of the functions.

Figure 1: The Authority's integrated strategic framework



Current work programme and allocation of funding

The Authority's current work programme is summarised under five main regulatory functions. Table 1 provides a breakdown of funding that went to each of the functions for the 2022/23 financial year. The Authority's additional statutory was introduced in December 2022 and as such there is no funding breakdown for the 'protect the interests of small consumers' function. Funding for the function 'Operate the electricity system and markets', is made up of mostly third-party contract costs.

The following are additional helpful resources that outline the Authority's current work programme:

- Annual corporate plan for 2023/24: Annual Corporate Plan 2023/24 published | Electricity Authority (ea.govt.nz)
- Electricity Authority Consultation calendar

Promote market development

The Authority's market development work promotes competition in, reliable supply by, and the efficient operation of, the electricity industry for the long-term benefit of consumers. The Authority has two key tools to develop the market: amending the Code and adopting market facilitation measures. The market development cycle ensures market improvement initiatives are effectively implemented and the results assessed.

The Authority is currently focusing on:

- reviewing the regulatory settings for distribution networks[9] to ensure they better support the transition to a low-emissions economy
- progressing work on distribution pricing reform[10].
- ensuring electricity supply remains secure and reliable through times of peak demand, such as those anticipated in winter months (managing peak winter electricity demand[11]),
- ensuring the grid is resilient in the long-term (the Future Security and Resilience work programme[12]). This includes working with industry on options to ensure there is an orderly retirement of thermal generation.
- implementing recommendations from recent reviews, such as our wholesale market competition review and the Market Development Advisory Group's (MDAG) review[13] into pricing in a renewables-based system. The Authority continues to progress projects focused on ensuring price signals promote investment in the right place at the right time.[14]
- supporting the uptake of new technologies for more dynamic management of the power system – promoting demand-side participation so industry participants can make consumption decisions in real time; and improving the forecasting arrangements for intermittent generation that is dependent on weather conditions, such as wind and solar.[15]
- continuing to support the implementation of the new transmission pricing methodology[16]
- active monitoring of the system and industry behaviour continues to be a key focus as the Authority seeks to publish more information in the interests of transparency and education.

[9] Updating regulatory settings for distribution networks | Our projects | Electricity Authority (ea.govt.nz)

[10] Distribution pricing | Our projects | Electricity Authority (ea.govt.nz)

[11] Managing peak winter electricity demand | Our projects | Electricity Authority

[12] Future security and resilience | Our projects | Electricity Authority (ea.govt.nz)

[13] Pricing in a renewables-based electricity system | Our projects | Electricity Authority (ea.govt.nz)

[14] Spot market settlement on real-time pricing | Our projects | Electricity Authority

[15] Review of forecasting provisions for intermittent generators | Electricity Authority (ea.govt.nz)

[16] Transmission pricing methodology | Our projects | Electricity Authority (ea.govt.nz)

Monitor, inform and educate

The market monitoring, information and education work focuses on improving the availability of data, information and tools, and improving awareness and understanding of how electricity markets function. Transparency and understanding are vital to give regulatory certainty and build trust and confidence in the market, the industry and the Authority.

The monitoring function helps identify behaviours that are potentially inconsistent with our objective. It also provides appropriate feedback into policy development.

The Authority is currently focusing on enhancing its monitoring function by improving retail monitoring, hedge market disclosure obligations and continuing to improve the availability of data and information to inform insights.

Operate the electricity system and markets (includes third-party contracts)

The Authority is responsible for the day-to-day, real time, efficient and reliable operation of the electricity system and markets. The Authority contracts a range of market operation service providers to operate the electricity markets efficiently (the market operation service providers and the System operator services are required to be contracted for under section 16 of the Electricity Industry Act 2010).[17] The focus is on creating fit-for-purpose services that increase market efficiency, ensure effective market operation and facilitate market development. About 70% of the Authority's funding goes to this function.

Commercial contract management is a key part of the Authority's role to ensure services are delivered to a high standard. The Authority works closely alongside all service providers, including the system operator, meeting regularly and closely monitoring performance.

The Authority is currently focusing on:

- improving our management through the introduction of a supplier risk register
- standardisation of templates and supplier reporting
- enhancing internal reporting.

Enforce compliance

The Authority monitors, investigates and enforces compliance with the Electricity Industry Act 2010 (Act), its Regulations and the Electricity Industry Participation Code 2010 (Code). The Authority's compliance and enforcement functions are critical for building trust and confidence in the sector.

[17] Section 8 requires that the system operator role is provided by Transpower, this is around 72% of our third-party contracts. From section 2 of the Act, market operation service provider means the system operator and any person appointed by the Authority under the Code to perform any of the following market operation service provider roles:

- the registry manager
- the reconciliation manager
- the pricing manager
- the clearing manager
- the market administrator
- the wholesale information trading system provider
- any other role identified in regulations as a market operation service provider role.

For more information about our market operation service providers go to: www.ea.govt.nz/industry/mosp/

The compliance function aims to improve the performance of the industry through education of participants and helps identify and resolve ongoing or systemic issues. The enforcement function aims to take appropriate and proportionate action where necessary, to ensure the Act, its Regulations and the Code are followed by electricity industry participants.

The outcome of an investigation ranges from educating and assisting a participant to comply where the risk presented is minor, to the Board laying a formal complaint with the Independent Rulings Panel.

Having a range of compliance tools enables us a proportionate response to the risk posed by the non-compliance and to adjust the response in an individual case by escalating or de-escalating the level of approach as necessary.

The Authority is currently focusing on increasing regulatory compliance by:

- driving more timely and robust decision making through process improvements and raising capability
- publishing recent cast studies and reports on trends and outcomes from compliance processes
- establishing a compliance education programme.

Protect the interests of small consumers

The Authority undertakes actions to protect the interests of domestic and small business consumers in relation to the electricity supply to those consumers. This work also contributes to the additional statutory objective which is to protect the interests of domestic consumers and small business consumers in relation to the supply of electricity to those consumers.

The Authority is currently focusing on:

- strengthening and improving protections for consumers through the review of the Consumer Care Guidelines.[18] This work takes into consideration recommendations from the Energy Hardship Panel, as well as feedback from industry and consumer groups including working with the Consumer Advocacy Council.
- increasing the collection and monitoring of retail market data, including monitoring of competitiveness and consumer protection in the retail sector. This includes monitoring the conduct of retailers towards vulnerable and medically dependent consumers.

[18] Consumer Care Guidelines | Our projects | Electricity Authority (ea.govt.nz)

Table 5: Allocation of costs for 2021/22 and 2022/23

Breakdown of operating costs by function	Actual 2022/23 $000	Actual 2021/22 $000
Appropriation income	**92,073**	**77,372**
Function costs		
Promote market development	14,350	14,400
Monitor, inform and educate	9,178	8,558
Operate the electricity system and markets (includes third-party contracts)	65,429	54,186
Enforce compliance	3,116	3,146
Total function costs	**92,073**	**77,372**

Note:

The Authority's costs have been attributed to our core regulatory functions, as detailed above. The funding for our ‘protection of small consumers’ function is incorporated into the other four functions as the additional objective was only added last year.

The underlying methodology allocates personnel and external costs being directly attributed to the appropriate function, but where this is not possible then those costs are treated as overheads, eg office rent costs or support staff costs. Overheads are then allocated across our functions based on an appropriate underlying measure eg full-time employee numbers.

The $4.6m increase provided for in the Authority’s 2023/24 levy-funded appropriation has gone some way to alleviating some significant pressure points facing the Authority. The increase is funding:

- $1.5m in CPI related increases to service provider contracts,
- $0.2m to small consumer awareness and assistance (Powerswitch funding),
- $0.4m in market related software amortisation (excluding Real Time Pricing),
- $2.5m to fund new kaimahi in areas which support the key functions of the Authority such as:
    - the Future security and resilience team (7 FTEs) who support the security and resilience of the electricity network
    - the Market Policy – Operations team (6 new roles) to support the security of electricity supply
    - the Retail Network team which oversees work on small consumers,
    - the Market Analytics team which supports our work in information and data collection and management to support policy development, information security and business continuity
    - the Wholesale Markets team which focuses on progressing regulatory reform and new market mechanisms to encourage and enable investment in new renewable generation and the exist of fossil-fuelled generation.
    - the Market Monitoring team which ensures the electricity market functions effectively,
    - the Compliance team which ensures compliance with the Code,

- ○ a small number of roles in our support teams to support these areas to deliver.

As previously noted in this business case, the electricity industry has changed a great deal over the past decade. The system used to be more straightforward with modest demand growth and a gradual but relatively low uptake of new technologies. Developments in the electricity market and power system occurred progressively and incrementally. That has now changed. The dynamics of the electricity system (its physical operation) and electricity markets (pricing and sharing of risk) are far more complicated now than they were even just a few years ago. This section details some of the key factors driving changes in the industry. Without additional resourcing to advance Authority workstreams, there is a significant risk there will be much higher costs to consumers, with fewer benefits from these changes than there would be otherwise.

Transition to a net zero emissions economy

The New Zealand Government has put into law a target for net zero greenhouse gas emissions by 2050. New Zealand's economy will need to decarbonise and switch away from fossil fuels to low-emission sources of energy such as renewably generated electricity. Electrifying transport and process heat, and increasing renewable electricity generation, will be the most significant contributors to New Zealand achieving net zero emissions by 2050.

Transitioning to a low-emissions economy with higher levels of renewable electricity poses significant challenges for the operation of New Zealand's power system. The transition also creates opportunities to optimise the evolution of the power system and, ultimately, better serve consumers' long-term interests.

We will see more renewable electricity generation, increased use of distributed energy resources (DER), more participants as well as new ways to participate. For example, the preferred pathway to net zero in the *Future is Electric* report requires, among other things, 1 million EVs in 2030 and 4.3 million by 2050 and 0.5 GW of EV battery capacity flexibility in 2030, and 3.7 GW by 2050 (equivalent to roughly 3 Huntly power stations). While the future is uncertain, these numbers provide an indication of the size of the changes required to transition to net zero. These changes are and will continue to shift the dynamics of the electricity system including the functioning of electricity markets, which will need to adapt quickly to enable change.

Mass deployment of intermittent generation

Decarbonising the New Zealand economy will require the mass deployment of intermittent renewable generation. While renewable resources come with benefits, such as the lowest operational costs and fewest greenhouse gas emissions, they can cause potential challenges when integrated into the grid.

Incorporating renewable resources requires a balance between developing renewable energy and system reliability to avoid power outages and disruptions.

A key characteristic of renewable generation is that its generation is, to varying degrees, intermittent and variable. This is particularly true of wind and solar generation. It is intermittent as the wind does not always blow and the sun doesn't always shine. It is also variable as its output across the year changes based on the season. Hydro is also variable although not to the degree of wind and solar but it is variable as rainfall is seasonal. New Zealand has limited lake capacity. “Dry years” are an ever present risk.

Electricity supply from these renewable sources needs to be complemented by utilising other sources of energy, including DER, to keep the grid stable in the face of wind, solar and hydro variability. In turn, this requires procedures, technologies and regulations to be in place to ensure uninterrupted supply of electricity even when some renewable sources are unable to generate.

Drawing on the analysis undertaken by the Authority's Market Development Advisory Group (MDAG), the transition has a number of key implications.[19]

- Real-time coordination will become more challenging and a well-run spot market will be increasingly important. Spot markets play a key role in sending price signals and accurate spot price signals are crucial for demand-side, contracting and investment incentives.
- The types and quantities of ancillary services will likely need to change to maintain secure supply. The shift to renewable supply necessarily means a shift toward more supply that is intermittent in nature. The greater the proportion of intermittent supply, the greater the need for mechanisms to deal with situations when energy supply falls short of the level demanded. As part of this, demand side flexibility will become more important.
- The contracts market will have to do more 'heavy lifting'.
- Sufficiency of competition will be vital, particularly in flexible supply.

The transition to a renewables based system is well underway. As reported by MDAG, New Zealand's renewables generation share is projected to reach around 94% by 2025 compared to 82% on average over the five years to 2021.[20] The pace of change is increasing which means the future is arriving faster than is expected. In MDAG's words, *it is imperative that we prepare now for the transformative role that electricity will play in our economy and day to day lives*.[21]

Increasing demand as New Zealand electrifies

Electricity demand has been reasonably stable over the last two decades but, as New Zealand transitions to a low-emissions economy, electrification of transport and process heat will create a substantial increase in electricity demand. New Zealand's electricity demand is projected to be 68% higher in 2050 than 2019.[22]

New electricity generation will need to be built to meet this increase demand (a large portion will likely be intermittent generation). The *Future is Electric report* estimates annual generation will need to increase by 79% by 2050, and annual capacity will need to increase by 163% by 2050. This increase in generation and capacity will be mostly met by solar, wind, and some geothermal and small hydro.

In addition to the need to build this generation, the distribution and transmission networks will also need to be upgraded to enable the additional generation and meet the increase in demand. There will need to be significant changes to the Code to support the additional sources of generation, and there needs to be regulatory certainty to attract and support the increased level of investment that will be needed.

[19] Market Development Advisory Group (December 2022) "Price discovery in a renewables-based electricity system", p34

[20] Ibid, p15

[21] Ibid, p15

[22] Source: Whakamana i Te Mauri Hiko - Empowering our Energy Future: TP Whakamana i Te Mauri Hiko.pdf

Significant investment in networks will be required

Large transmission and distribution network investments will be required to enable and accommodate increasing electrification. For example, the *Future is Electric* report estimates that in the 2020s and 2030s combined there will be $47 billion of distribution investment and $18 billion of transmission investment.[23] The Authority has a key role to play in helping ensure the efficient level of network investment, for example through supporting the uptake of non-network solutions which can reduce or defer the amount of network investment required. Improving the efficiency of network investment by even a small percentage, can have large benefits to consumers through lower bills than they would otherwise experience.

Technological change means more solar panels, electric vehicles and batteries will be connected, creating both new challenges and opportunities for distribution networks. These issues are exacerbated by the need to accommodate bi-directional power flows arising from the new technology and to address the system stability issues that will arise.

While there is uncertainty around the exact level of network investment that is needed over the coming decades as New Zealand transitions to net zero, most reports on the topic agree that the level of investment will be in the billions of dollars and a lot larger than the upgrades seen in recent decades.

Regulatory settings will need to be at their optimum to ensure that challenges can be met, and opportunities taken advantage of, to support the transition to a low-emissions economy at the lowest possible cost to consumers.

Markets need to work well. Markets enable a diversity of suppliers to offer competing solutions to meet consumers' demand and for consumers to choose the solution that best meets their need. Better solutions should displace less efficient solutions in the near term (selecting cheapest supply sources each half hour). Over time this should also drive investment decisions to deliver reliable electricity at least cost.

Put simply, existing regulation will not be fit-for-purpose for the changes that are coming. The consumer of the future will be more connected and autonomous, as energy becomes more of a service dictated by consumer needs and behaviour. Increased consumer agency and participation requires regulation to keep up with technological change and for the regulator to be able to sense and anticipate what's on the horizon.

The Authority needs to be able to consider all the issues and ensure regulatory change is well-designed, coordinated and delivers for the long-term benefit of consumers.

The proposed actions listed below (and taken from Boston Consulting Group (BCG) - the Future is Electric) provide a flavour of the raft of matters that need to be considered:

- Support accelerated renewables development by, among other things:
  - Developing mechanisms to mitigate supply chain risks
  - Facilitating a deeper purchase power agreement (PPA) market

- Encourage the right energy and capacity mix by assessing and deploying market mechanisms to provide assurance regarding capacity and energy to manage peak demand and dry years including:

[23] It is worth noting that these numbers include investment for other changes, such as enabling renewable generation and supporting DER uptake, however; a large portion of the estimated investment is to accommodate increasing electrification.

    - Deepening contract and derivatives markets
    - Improving forecasting
    - Improving tracking, monitoring and visibility of markets and price information Investigating increased reserve cover, a 30 minute reserve service, a day-ahead market, a limited dispatch mandate and a retailer reliability obligation

- Enable a smart electricity system
    - Improve distribution peak pricing signals and smart managed tariffs
    - Establish a roadmap for forming competitive flexibility markets
    - Mandate default off peak electric vehicle (EV) charging.

As will be discussed throughout this business case, there is a wide range of issues and measures that need to be addressed to prepare for a renewables-based system. Much of the development work will fall to the Authority. The Authority is deeply concerned current levels of funding (and, hence, resources) are not sufficient to enable the work required. The regulator is at high risk of being a handbrake on the transition; not an enabler or leader of it. A stable regulatory framework will be essential to avoid a disorderly transition.

The Authority is not alone in this view. MDAG is on record as saying:

"Reprioritisation alone is very unlikely to free up the level of resource needed to undertake the proposed work [as set out in MDAG's report]. It is therefore imperative that the resourcing for the Authority be reviewed to enable implementation of the work plan with urgency".[24]

In the baseline review of the Authority, Sapere emphasised the transition to a low emissions economy with consequential implications for market design and security arrangements.[25]

"*It is clear the Authority is operating in a significantly different context to that for which it was created when it replaced the Electricity Commission. It is also operating in a significantly different environment in the last four or so years, for instance with the establishment of the Climate Change Commission and release of first Emissions Reduction Plan, the unexpected outage at the Pohokura gas field in 2018, and more recently increases in UTS claims. Of particular focus are the challenges presented to the electricity sector in the transition to a low emissions economy.*"

Changing technology and market dynamics

Technology in the electricity system and markets is changing at pace. Much of the change can be viewed as being a function of the shift to renewables but some of the change would, likely, be occurring anyway. Changes in technology coupled with the shift to renewables is fundamentally changing the way the electricity system and markets work. Two examples of this are described below, but there are others besides.

Intermittent generation

The increasing proportion of renewable electricity is increasing the amount of intermittent generation – principally wind and solar. This causes bi-directional power flows and, together with the retirement of thermal generation, inherently increases the risks for reliability (security of supply).

[24] Ibid, p30

[25] Sapere (July 2023) Electricity Authority Strategic Baseline Review 2022/23, draft final report, pvii

This shift will give rise to much greater pricing volatility. Market price signals are important for allocation and investment reasons. However, volatility can cause investors to be nervous about making large investments. Regulatory settings and market-based tools will be important in terms of letting pricing signals flow through to investors while not deterring incentives for investment.

Distributed energy resources (DER)

More diverse and distributed generation is increasing the number of participants and diversity of supply arrangements.

Historically, balancing supply and demand in the electricity system has involved changing the supply of electricity as demand changes. Demand management has also been used including planning for the timing of maintenance to generation plants and offering a few large consumers financial incentives to reduce their demands at peak times.

DER is changing this historical way of working. DERs allow more consumers to be part of the Demand Response and support the National Grid – unlocking and monetising the potential of electricity generated through Flexibility Management Systems (FMS).

FMSs are software-based platforms used to communicate, manage and orchestrate DERs, such as:

- ripple control of hot water and participation of large commercial consumers
- reducing and flexing demand from the grid or large-scale generation by using solar PV or batteries to meet load locally
- shifting demand from peak to off peak times by controlling when smart devices such as appliances, hot water cylinders or EV chargers operate.

According to Sapere, much of the contribution from DER comes from demand reduction in the form of smart appliances and smart charging of EVs.[26] Transpower estimates there will be 3.9 million distributed energy resources across the system by 2035.[27]

If DER can be harnessed, it can reduce the need for thermal peaking in the electricity market and can also reduce the need for new lines investments and generation. It can contribute to ancillary services including instantaneous reserves, frequency keeping, voltage support, harmonics, and inertia[28].

Ensuring the right regulatory settings are in place as the market develops is crucial to maximising this opportunity for the long-term benefit of consumers. Analysis undertaken by Sapere has estimated that the benefits from harnessing DER could be, under an "ideal scenario" $6.9 billion in net present value terms (and 2021 dollars).[29] DER can also support greater resilience. In Cyclone Gabrielle it was noted that Solar Zero customers, who have solar panels and battery storage, were able to maintain electricity supply when their neighbours were without power.

To realise the value associated with DER, there is a raft of access, pricing, and coordination challenges that need to be addressed.

26 Sapere (September 2021) Cost-benefit analysis of distributed energy resources in New Zealand, p5

27 MDAG (2022), op. cit., p17

28 Sapere DER CBA, piv

29 Sapere (2021) op. cit., pvii

Protecting consumers

All of the Authority's work aims to benefit consumers. The importance of consumers to regulatory decision-making is reinforced through the Authority's consumer centricity ambition. This means decision-making is focused on improving consumer outcomes and consumers are engaged and have a voice in the Authority's decision-making processes. The recent addition to the Authority's statutory objectives gives more specific attention to domestic and small business consumers and, within this, vulnerable and medically dependent domestic consumers (as emphasised in the Minister's most recent Letter of Expectations).

Increasing the focus on small, and especially vulnerable, consumers is not something specific to the Authority. It is an expectation that is common across many other regulators including, for example, the Commerce Commission and government agencies including MBIE. What we know from these other agencies is that protecting the interests of small and vulnerable consumers is resource intensive.

There are many factors behind this, including:

- people (and businesses) in these groups can be hard to reach
- the issues they face and concerns they have are not well understood and not necessarily the same across different groups.
- within the groups limited understanding of the choices they may have, how to exercise them as well as other consumer rights,
- lack of trust in government and traditional forms of engagement can be a barrier to increased understanding.

Responding to the many and diverse issues as well as improving outcomes for these consumers requires time and resource. Under current appropriation, the Authority does not have sufficient capacity, and potentially capabilities, to address this aspect of its statutory objectives as comprehensively and quickly as it should.

Stakeholder expectations, perceptions and relationships

Maintaining the trust and confidence of stakeholders in the regulator and the regulatory system is fundamental. Without it, regulatory outcomes are almost certainly not going to be achieved.

There are signs that there is a gap between the expectations that stakeholders have of the Authority and their perceptions of the Authority (ie, reality not aligning with expectations).

Some of the signs include the following points:

- stakeholders have expressed concerns they do not understand linkages between what the Authority does and its strategic priorities
- related to the previous point, stakeholders do not understand how the Authority prioritises its work or what lies behind the priorities
- effective engagement remains key for stakeholders to feel confident in the regulator and the decisions it makes but stakeholders are signalling they desire more meaningful and proactive engagement with the Authority.
- stakeholders want the Authority to be more future focussed, as well as providing some certainty through the transition.

The baseline review (commented on further below) identified a need to engage with a wider range of sector participants and to work on key relationships including assigning senior points of contact for key stakeholders as well as engaging with a wider range of sector participants. The Authority agrees with these needs but, like all the other areas requiring attention, the Authority needs to be resourced appropriately to make progress.

Baseline review

The baseline review commissioned by MBIE and undertaken by Sapere was tasked with answering the following questions:

- How well positioned is the Authority to deliver on its role and strategy?
- How well is the Authority performing (efficiency of resource use, and value add/quality of outputs delivered)?
- What cost pressures does the Authority face over the next four years, and do they align with its strategy and priorities?
- What are the options to manage within different funding paths?

The last question, “what are the options to manage within different funding paths?” is the funding component of the review. The review did not answer this question. Sapere considered that estimating the funding levels associated with different options would have required significant assumptions in the time available, and it was agreed with MBIE and the Authority that the Authority would undertake the work to answer the funding component of the baseline review which would then be reviewed by Sapere and MBIE. This business case addresses the funding component of the baseline review’s terms of reference.

In answering the first three of the questions above, the baseline review has identified multiple areas that need improvement. The full list of recommendations is included in Appendix B. The highest priority areas are:

- improving confidence in reliability
- improving the maturity of relationships between the Authority and System Operator, MBIE and the Commerce Commission
- raising the strategic outlook of the regulator to being long term (10 years) with a three-year planning horizon
- Clarifying the link between strategy and work programme, including prioritisation framework and when different levers or approaches will be used (eg, market facilitation, education, review of the Code[30], enforcement).

The Authority concurs that all of these are high priority areas to address and, more generally, the Authority also agrees with the other areas for improvement identified by Sapere. The Authority is pleased to see that the baseline review acknowledges the fact that, historically, the Authority’s funding has been “fairly flat”[31] and that the Authority is facing significant funding pressures.

The baseline review notes that developments in the sector carry multiple implications for the Authority including:

- additional workload pressures to support the market shifts and delivery of statutory objectives
- requirements to modernise the Code
- opportunities to support rapid, short cycle innovation
- ensuring systems support further digitisation and information flows

[30] The Code is the set of rules that governs nearly every aspect of the electricity industry – from generation, to transmission, system operation, security of supply, market arrangements, metering, distribution and retail.

[31] Sapere (2023), op. cit., pxi

- a review of standards (as contained in the Code) to ensure barriers to entry are minimised and standards are relevant.[32]

All the above require more resources to implement.

Examples of important areas of work the Authority has had to deprioritise

This section outlines selected areas of work the Authority has deprioritised due to resourcing constraints. It is not a comprehensive list, but is designed to demonstrate there is work that would benefit consumers the Authority has not been able to begin, complete or progress at an optimal pace due to resourcing constraints. Without an increase in resourcing this and other work is at high-risk of delay or incompletion.

Keeping the Code current

As the regulator of New Zealand's electricity industry, we make and administer the Electricity Industry Participation Code 2010 (Code). It's the set of rules that governs nearly every aspect of the New Zealand electricity industry. It is critical the Code keeps pace with industry and enables the transformation underway, as highlighted in the baseline review.

This work falls into three broad areas – (1) the Code review omnibus to amend the Code for clarity, error correction and minor updates as the industry evolves; (2) major reviews of operational processes and the enabling Code obligations; and (3) responding to participants' requests for Code changes.

Specific examples of these include:

- **Regular (usually annual) Code review programmes:** Regular code review programmes have been on hold since 2020 to enable resource to be diverted to other higher priority work such as progressing the Electricity Price Review recommendations, managing industry's response to the Covid lockdowns, and reacting to a dry year in 2021 and a possible dry year in 2022. There is a large backlog (over 50) of these minor issues to be addressed, for example: aligning the certification period (currently two years) to the maximum audit period (currently three years) for participants, clarifying what is a connection charge, and updating metering standards. This causes industry inefficiencies that results in increased costs for consumers.
- **Switch Process Review:** The 'Switch Process Review' reviewed the operational processes around all three forms of switching: ICP switching between distributors; ICP switching between MEPs; and consumers switching retailers (the biggest of these). This review modernises the switching processes to take advantage of smart metering and to remove inefficiencies for smaller and new entrant retailers and automates the process for distributor switching. This makes switching a quicker process, reducing inefficiencies and cost, and making the experience better for consumers. The preferred options were consulted on in 2019 but have been on hold since.
- **New Registry Fields:** The 'New Registry Fields' project is a project looking at several unrelated changes to the electricity registry all having direct consumer benefits. For example: reforming the address information to reduce issues with consumers being switched into the incorrect ICP and subsequently being billed incorrectly (affects at least 3% of addresses) and adding additional DER information to enable retailers to offer pricing plans to consumers that

32 Sapere (2023) ppvii and viii

maximise the value of their DER (eg, through demand response) which will result in lower electricity bills than otherwise.

- **Enabling multiple trading relationships (MTR):** Allowing consumers to have a 'import' and 'export' retailer, which would enable allowing consumers with distributed generation (mainly rooftop solar) to get better pricing for their generation. The Ara Ake MTR pilot is an example of this in practice, however, to make the pilot work a Code exemption was required. So in lieu of making this change, future MTRs could also require a Code exemption which is a time consuming process.

Wholesale market reconciliation at 30-minutes

The Authority has been intending to review the wholesale market reconciliation processes. The review would consider requiring purchasers to use more accurate smart meter half-hour data instead of profiled monthly register data. This would improve reconciliation accuracy (reduce monthly 'unaccounted for electricity'). This results in more accurate invoicing for retailers for the previous month and less volatility for the washups, which reduces pressure on prices to consumers. This review was due to kick off once half-hour certified meter (smart meter) penetration reached 90%. This milestone was passed in June 2021 and this project continues to be de-prioritised.

Updating the Regulatory Settings for Distribution Networks work programme

The Updating the Regulatory Settings for Distribution Networks work programme began in 2021. Sapere has estimated that that if DER were to realise its potential, the net benefit from 2021 to 2050 would be $6.9 billion. These benefits are additional to the benefits expected to occur from DER under the current market and regulatory environment. These savings will ultimately be passed on to consumers.

Lack of resourcing has delayed progress on this critical work programme. For example, an issues paper was published in December 2022 and the Authority is only planning to publish its work programme to address issues by the end of 2023.

Resource was diverted to this work programme as a result of pausing IPAG, but resourcing was subsequently diverted away from this work programme to other higher priority projects, such as the wholesale market review, and the review of the consumer care guidelines.

As a result, there is a real risk that changes to the regulatory settings at a distribution level are not keeping pace with the significant change that the electricity industry is experiencing.

This may result in higher costs than otherwise for consumers (through sub-optimal network investments) and fewer benefits than otherwise for consumers (through not being able to maximise the value of DER / new technologies, such as EVs and batteries).

The Future Security and Resilience work programme

Transpower produced a 10-year roadmap with a list of activities to address identified opportunities and challenges (see figure 4 below) to help ensure New Zealand's power system remains stable, secure and resilient as it experiences significant change, such as increasing levels of demand, new technologies being connected to the network, large amounts of renewable generation coming online, and two-way power flows (the system was designed based on one-way power flows). The roadmap has also been extensively consulted on.

The FSR work programme is a key initiative for the Authority. Currently the Authority is prioritising three FSR workstreams: the review of part 8 of the Code; the Future System Operations; and indicators to monitor whether changes to the prioritisation of activities on the FSR roadmap are desirable considering new information about opportunities and challenges to security and resilience.

At this stage the Authority does not have resourcing to progress any other activities on the FSR roadmap, such as reviewing Part 7, 13 and 14 of the Code to ensure they align with Part 8 or reviewing the benchmark agreement between Transpower and those connecting to the grid. On the FSR roadmap, these activities are due to begin in 2023. As the power system changes, and if these activities are not progressed, the risks to security and supply will increase.

Compliance education programme

Compliance has deferred the design and implementation of a compliance education programme. Staff resources have focussed on reducing the number of open breach cases and to improve the timeliness of closing cases. This has meant the Authority has been in response mode and not able to move to being a more proactive and engaged regulator.

Network pricing

Due to resourcing constraints, the Authority has not been able to devote significant resources to distribution pricing reform over the last decade; our work in this area has been limited to voluntary principles, guidance notes and scorecards. Accordingly, progress has been limited to existing issues (such as time-of-use pricing) with little progress on emerging issues such as the pricing of network connection, which is a critical enabler of decarbonisation (as was recognised in the Minister's 2023 Letter of Expectations for the Authority). As a result, Drive Electric (for example) has observed that "*New Zealand's public charging network is well behind our international peers; is deterring EV drivers; and puts New Zealand's emissions reduction goals at risk*".

The case for change – why should levy payers be asked to pay more?

If levy payers are asked to pay more, they, and New Zealand more generally, will rightly expect to receive some benefit in return.

The value proposition that is reflected in this business case and which underpins the case for change has three main components all of which, ultimately, support the Authority to meet its statutory objectives:

- More effective – greater contribution to statutory objectives and strategic ambitions and, ultimately, delivery of more benefits for consumers
- Drive efficiency – including addressing areas for improvement identified by Sapere
- Reduce risks - minimise risk of disorderly transition and adverse/unwanted consequences (if relying on current funding).

Effectiveness

The environment within which the regulator is operating is changing much faster than historically has been the case. Current funding constraints mean it is increasingly difficult for the regulator to keep pace with the changes and make consequential changes to regulatory settings. This includes changes to the Code and, potentially, the need for more fundamental review of the Code, as well as changes to supporting operating procedures and policies (including those in relation to System Operator).

Keeping pace with change is important for a range of reasons:

- it helps to facilitate the transition to net zero emissions
- it allows new and innovative technologies to be integrated into the operation of the electricity system and market which is important because innovation is a key driver of productivity growth and better meeting consumer needs
- it helps to build confidence among investors about the environment that are investing into and avoids creating barriers to entry
- it helps to guard against a range of risks that might otherwise materialise including opportunities for some market participants to exert undesirable market power
- it helps to build confidence and trust in the regulator and regulatory system which, among other things, supports investor confidence.

Keeping pace with change could be interpreted as saying the regulator needs to be a close follower of developments. There is, however, a good case for the regulator to be ahead of the issues. That is, to have the capacity and capability to anticipate issues before those issues turn into problems. This is an important part of being a more strategic and forward-looking regulator; an attribute that the baseline has called out as being among the top four priority areas for improvement for the Authority. The benefits of the shift from reactive to proactive are multiple but include:

- greater regulatory certainty and stability which are important from an investment/investor perspective
- reducing the costs that would otherwise result from having to deal with problems that emerge
- avoiding situations where the regulator finds itself responding to problems in a hurry and without the appropriate level of analysis and consideration. This includes reducing the risk that the regulator is unduly led by solutions promoted by particular interest groups, rather than solutions that will benefit consumers.

The Authority is not the only agency that plays a role in regulating the electricity sector. Other agencies including MBIE and the Commerce Commission, the Energy Efficiency Conservation Authority (EECA) and the Gas Industry Company (GIC) all play key roles in relation to energy regulation. For the regulatory system to work well, the Authority needs to play its part well, otherwise the system as a whole loses effectiveness. There are opportunities for the Authority to step up and take more of a leadership role, as a regulatory steward, to ensure the system as a whole is working well and ensure that the agencies with regulatory responsibilities operate cohesively and in ways that are mutually reinforcing and focused on shared purpose and outcomes.

A key part of the regulator's role is ensuring that regulatory settings are fit-for-purpose. The comments above talk to this requirement. In addition, however, the regulator must enforce compliance with the rules. In this regard, there is a good case for further investment in compliance activity. At one level there is a need to give more attention to measures, including education, that promote compliance rather than addressing non-compliance when it occurs. In plain terms, a stronger fence at the top of the cliff rather than heavy reliance on the ambulance at the bottom of the cliff. Notwithstanding this point, the regulator needs to stand ready to address non-compliance. Recent changes that have raised the levels of penalty mean that parties identified as not complying are more likely to defend their position. The regulator needs to respond to this; to not do so increases the risk that non-compliers will "try it on" which, ultimately, threatens the integrity of the regulatory system and competence of the regulator.

All consumers stand to benefit from the work of the Authority but some groups of consumers deserve more focused attention; in particular domestic (especially vulnerable) and small business consumers. These groups need a helping hand to ensure that they can make best use of the options open to them from the market. The regulator can help with that and, furthermore, the regulator can pay close attention to the conduct of retailers toward, in particular, vulnerable consumers.

Efficiency

Additional resource is required to fully realise the efficiencies that Sapere identified in its baseline review, and fully realise the efficiencies the Authority is currently working to achieve. The Authority's drive to improve efficiency is outlined in more detail in the efficiencies section.

Reducing risk

The third major leg of the case for changes rests on opportunities to reduce risk. The most important aspect of this is the ability to support the transition and adequately manage the risks and opportunities emanating from the electricity system over the coming decades.

In many ways, reducing this risk is the flip side of some of the effectiveness gains described above. As will be discussed further in the economic case, developments such as intermittent generation and DER pose challenges for the operation of the electricity system but both are important aspects of the transition to net zero. Unless regulatory settings adapt quickly to these developments, there will be increased risks to security of supply and, in the case of DER, risks of inefficient investment (which means a risk of prices being higher than they need to be). A good example is investment in physical infrastructure (lines) that could be deferred or avoided by greater use of DER.

There are two other aspects of risk that also underpin the case for change, both of which have more to do with the functioning of, and trust in, the regulator. The first of these is resilience. Under current funding settings, it is a real challenge for the Authority to keep pace with business-as-usual. When an unplanned event or issue arises, the organisation lacks resilience to deal with that event/issue without serious disruption to business as usual. This is demonstrated by the previous section which provided specific examples of important areas of work the Authority has had to deprioritise due to resourcing constraints.

The second aspect is reputational risk. As noted earlier, there is a gap between stakeholder expectations of the Authority and their perceptions of what the Authority is achieving. That gap needs to be addressed and preferably reversed. The case for change rests, in this respect, on maintaining trust and confidence in the regulator, which is important for investor confidence.

Economic Case

Introduction

The primary purpose of the economic case is to evaluate optimal value for money. To this end, the economic case describes, and then assesses, four options for the future level of funding for the Authority. This includes the option of no additional funding for Authority operations (funding for third-party contracts is however required). The other three options progressively expand the scope of what the Authority can do. The process for developing the options was described earlier in the introduction section of the business case. In terms of the assessment, each option has been assessed with reference to:

- Strategic alignment including support for the transition and contribution to strategic objectives including benefits to consumers
- Economic alignment - value for money which involves identifying the best balance between benefits, costs and risks
- Commercial alignment – the capacity and capability of third parties to deliver what is needed under each option
- Financial alignment – affordability taking into account the longer term implications of each option for costs to consumers
- Management alignment – the capacity and capability of the Authority to manage and implement the changes under each option
- Alignment with baseline review recommendations the extent to which each option enables the Authority to address all of the recommendations in the baseline review in a timely way.

Before turning to the options, however, there are two matters to address first. One of these is funding for third party service contracts. The other is efficiencies.

Third-party contracts

Under the existing appropriation structure, the Authority's operations, the system operator service provider agreement SOSPA and other market operation service providers (MOSPs) are all funded from the same appropriation. If more funding goes to the System Operator (under the SOSPA) or other market service providers, the funding available for the Authority's operations is reduced.

The Authority is keen to have the funding for SOSPA and the MOSPs dealt with separately to avoid the adverse impact on funding available to the Authority. Sapere identified this issue in the baseline review report. The cost of third-party contracts amounts to about $70 million and accounts for about 70% of the Authority's appropriation. The contracts include:

- System Operator (a part of Transpower) - coordinates electricity supply and demand in real time, in a manner that avoids fluctuations in frequency and disruption of supply
- NZX - operates the Wholesale Electricity Market providing systems and services that support the 24/7 buying and selling of spot market electricity. NZX also performs a reconciliation manager role for calculating and allocating unaccounted for electricity as well as a clearing manager role (settling on a monthly basis, all trades on the spot and financial transmission rights markets)

- Jade Software Corporation Limited - acts as registry manager overseeing the Electricity registry – a national database of every point of connection on local and embedded networks to which a consumer or embedded generator is connected
- Energy Market Services (EMS) - provides service for Financial Transmission Rights (FTR)
- Bold Trading - provides commercial market making services
- Consumer NZ - provides the Powerswitch service.

The focus of this business case is for funding for the Authority’s operations. However, funding for the third party vendor contracts needs to be addressed to avoid eroding funding for the Authority’s operations.

Known cost pressures

The Authority expects the cost of these third-party contracts to increase due to inflation and material changes to the requirements (reflecting increasing system and markets complexity). There is significant uncertainty regarding the level of funding needed over coming years. Transpower as the system operator has already indicated it expects to present the Authority with a request for a material increase in its funding during the contract renewal. NZX has recently put forward a proposal for increased funding during the SOSPA contract reset.

To avoid adverse impacts on the Authority’s operations, the funding that is needed for these contracts should be addressed independently of decisions regarding the funding for the Authority’s operations.

Under current arrangements, the funding available to the Authority is declining because more is being paid to the third party service providers due to:

1. the electricity system becoming more complex, third parties need to do more and require more funding to do so, and
2. third-party contracts are inflation adjusted, so third parties are paid more as inflation increases which currently comes from the funding for the Authority’s core operations. This inflation impact is significant given third parties make up approximately 70% of the overall appropriation. The table below shows that this impact is estimated to be $1.8m in 2024/25.

The inflation impact of third party contracts over the past four years was $3.1m. This has directly reduced the available funding for the Authority’s operations. The future impact of this is a further $6m over the next 5 years[33].

The inflation impact discussed above is separate to the Authority having fixed a nominal baseline for its core operations. Fixed nominal baselines are a standard feature of appropriations. It is about funding for its core operations getting impacted by inflation twice:

1. as a result of fixed nominal baselines (a standard feature across government), and
2. as a result of third party contracts being indexed to inflation, which make up 70% of the overall appropriation. For example, of the $4.6m funding increase for the 2022/23 year, around $1.5m has gone to third-party contracts, with the remaining $3.1m going to core Authority’s operations.

Based on current information, the Authority estimates in the order of $7.6 million will be required in FY25 (compared to FY24) to fund the third party service providers (current funding is approximately $70.4 million and this would rise to circa $78 million). However, this estimate has some uncertainty attached to it.

[33] Sapere (2023), p77

This business case is seeking approval for additional funding for the third-party contracts to address the additional amounts that must be paid as a result of cost inflation and to, therefore, neutralise any impact on the Authority's own funding.

The additional costs included in this proposal include the inflation adjustment for next year and known contractual increases based on ongoing discussions and procurement processes. This applies to all options considered. The table below details the split amongst these categories on third party contracts, note the impact of inflation.

Table 6: Driver of third party contract increase in 2024/25

	Amount
Inflation adjustments	$1.8m
Contractual discussions	$2.2m
Current procurement processes for 2 contracts	$3.6m
Total	**$7.6m**

The contractual discussions are in relation to enhanced security offerings to better protect the market services.

At the time of preparing this business case, the FTR Manager and Commercial Market Making services are proceeding through a procurement process and based on the ROI responses these costs will increase. The increases reflect the changes in cost to deliver those services. A conservative level of cost has been included based on the responses.

Table 7: Summary of third party costs by option

SUMMARY OF COSTS BY OPTION					
$000	**GMO appropriation 2023-24**	**2024-25 Option 1**	**2024-25 Option 2**	**2024/25 Option 3**	**2024/25 Option 4**
Market operating appropriation					
System operator	47,065	49,816	49,816	49,816	49,816
Service provider - clearing manager*	3,128	2,774	2,774	2,774	2,774
Service provider - wholesale info and trading system*	1,942	1,930	1,930	1,930	1,930
Service provider - reconciliation manager*	990	2,386	2,386	2,386	2,386
Service provider - registry	778	828	828	828	828
Service provider - FTR manager	908	1,400	1,400	1,400	1,400
Service provider - depn and amortisation	1,199	1,319	1,319	1,319	1,319
Service provider - IT costs	24	35	35	35	35
Market making	14,400	17,500	17,500	17,500	17,500
Total Market operator costs	**70,434**	**77,988**	**77,988**	**77,988**	**77,988**
Increase on 2023-24 ($m)		*$7.6*	*$7.6*	*$7.6*	*$7.6*
% increase from 2023/24		*11%*	*11%*	*11%*	*11%*

Expected cost pressures

We would also like to signal the upcoming contract resets and renewals for the System Operator and MOSPs. The System Operator contract will be reset for the period commencing 1 July 2025 and all MOSP contracts will be renegotiated for the period commencing 1 July 2027. The renewal of these contracts is likely to include significant cost increases. These increases are driven by the changing industry and markets, increased costs in general across New Zealand, suppliers needing to deliver differently and development of new tools since the contracts were originally signed. These potential changes aren't included in this business case. (The additional costs included in this proposal include the inflation adjustment for next year and known contractual increases based on ongoing discussions and procurement processes). The amounts set out in this business case do not reflect these amounts as they are not yet known with any degree of certainty.

Efficiencies

As part of any bid for additional funding, it is important to demonstrate that the organisation is efficient and economical in its use of existing resources. This has been a key focus of the recent baseline review. This section explains how the Authority is driving efficiencies and how additional resourcing would help to magnify the efficiency gains, and realise the opportunities for efficiencies identified in the baseline review recently completed by Sapere.

The baseline review has identified several areas for improving cost efficiency:

- focusing more on its core functions as a regulator and minimising/focusing any spending on boundary issues with other regulators/agencies
- possible efficiencies in engagement, operating decision making processes including harnessing opportunities to redesign processes so that they are more agile and innovative and embody continuous improvement
- reducing turnover and improving technical capabilities
- leveraging technology and data analytics.

In general, the Authority agrees with the need for change in these areas and is already working to deliver these efficiencies and others, as outlined below. However, upfront investment is required to deliver improvements in most instances, for example: changes to operating procedures incurs cost ahead of being able to realise the benefits, and leveraging technology and data analytics means investment in tools, systems and people.

The following outlines key areas where the Authority is working to create efficiencies, and how, in some instances, additional resource would magnify the efficiency gains:

- **Strengthening working relationships with other agencies:** The Authority is working on improving its working relationships with other relevant agencies, such as the Commerce Commission, MBIE, the GIC and EECA. This will help reduce overlaps and gaps in work programmes and identify areas for leveraging existing or planned programmes of work. For example, where appropriate, identifying opportunities in the Commerce Commission's Information Disclosure Requirements review to progress Authority policy objectives. Strengthening and maintaining relationships to achieve consistency and an energy system approach requires time and resource.

- **Preventative compliance work:** The Authority undertakes work to prevent Code breaches from happening or intervene early to reduce the impact on consumers ie, proactive compliance monitoring. This work is guided by our risk framework. The Authority focuses on provisions of the Code that have the highest likelihood of harm and are difficult to detect non-compliance. Not only does this prevent Code breaches from occurring or identify issues early to reduce negative impacts on consumers, but it also helps prevent resource intensive Code breach compliance cases. Additional resource would enable more preventative compliance work (ie being able to undertake breach trend analysis to guide further proactive compliance interventions and education), which would result in efficiency savings from having less resource intensive Code breach compliance cases (as well as less Code breaches which can negatively impact consumers).

- **Reducing turnover and improving technical capabilities:** Targeted training – internal and external - and development forms part of our approach to reducing staff turnover, supported by human resource market research that shows employees tend to stay longer with organisations that invest in learning and development. This includes training for current and emerging leaders. A dedicated learning and development advisor will enable the Authority to target opportunities to all individuals. As a regulator in a technical industry the Authority requires staff who have a strong understanding of the industry that they regulate. The Authority needs to retain people with hard-earned experience and attract people from the industry, both of which will yield efficiencies by enabling the Authority to progress its work at a consistent pace (though there will always be circumstances where it is necessary or efficient to use external support given the highly technical nature of the electricity industry).

- **Service provider contracts:** The Authority reviews its service provider contracts on an ongoing basis to identify opportunities to improve value-for-money. Additional resourcing would ensure that the Authority is better equipped to extract more value from our service arrangement contracts. It is important to note that the market operation service providers and the System operator services are required to be contracted for under section 16 of the Electricity Industry Act 2010).[34]

- **Advisory group review:** The Authority is reviewing its Advisory groups to determine if there are more efficient options to achieve the same outcomes. As part of this the Authority paused the Innovation Participant Advisory Group (IPAG) at the start of 2022 to reprioritise resource to its distribution work. Advisory group members make themselves available for free or at a discount to their normal salary and as a cross section of experts and representatives. advisory groups are a very effective way to address issues and opportunities for the benefit of consumers. Additional resource would enable the Authority to better service existing advisory group(s) and / or set up another advisory group which would also result in efficiency gains for the Authority through early engagement, identification of key issues and collective problem solving.

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[34] Section 8 requires that the system operator role is provided by Transpower, this is around 72% of our third-party contracts. From section 2 of the Act, market operation service provider means the system operator and any person appointed by the Authority under the Code to perform any of the following market operation service provider roles:

- the registry manager
- the reconciliation manager
- the pricing manager
- the clearing manager
- the market administrator
- the wholesale information trading system provider
- any other role identified in regulations as a market operation service provider role.

For more information about our market operation service providers go to: www.ea.govt.nz/industry/mosp/

Example of reducing consultancy spend: Winter 2023

The Authority's recent work to enhance the reliability of the New Zealand's electricity system through winter is an example of where additional Authority resource would have resulted in less consultancy spend

Work to improve the reliability of the electricity through winter 2023 started relatively late in 2022, as resourcing was prioritised towards the implementation of the real time pricing project. Even then, resource constraints meant external support was needed at short notice to produce the consultation paper to ensure it could be published before the end of 2022. Increased resource would have allowed this work to begin earlier and would have prevented the need to use external support.

Reducing consultancy expenditure

Figure 2 shows the Authority's actual external advice spend over the past three years, and its forecast expenditure for the current financial year. The Authority has identified reducing consultancy spend (which is a component of Figure 2) as a key efficiency opportunity.

Under the proposed work programmes in options 2-4, the Authority would reduce its consultancy spend. However, the final spend would depend on factors outside of the Authority's control. The following outlines how the Authority is planning to reduce consultancy spend, which would be supported by an increase in resourcing under each of the options 2-4:

- **Being more proactive:** Proactively identifying issues and opportunities enables the Authority to better plan and prioritise its resourcing. This prevents reactive responses, which are often under compressed timeframes, which creates more resourcing pressures which is often met by external support.
- **Building in-house capability:** The Authority is working to improve the capabilities of the staff, for example through professional courses and on the job learning opportunities, which will help reduce reliance on external advisers. However, it takes time and resources to build in-house capability.
- **Internally monitoring international developments:** Keeping abreast of international developments is important to understand overseas opportunities and challenges, lessons-learned and to identify what could apply in New Zealand. The Authority has used external resource to assist in the monitoring of international developments. However; the Authority considers this is a critical in-house role for the regulator and plans to do more international scanning as well as more information sharing and engagement not just to reduce consultancy spend but also help build and retain knowledge.
- **Being able to respond to the unexpected:** More resource would enable the Authority to better respond to unexpected issues with internal resource, as opposed to needing to sometimes rely on external consultants to fill the gap, or to back fill projects if there has been resource reprioritised.

More generally, the Authority will aim to only engage consultants and contractors when[35]:

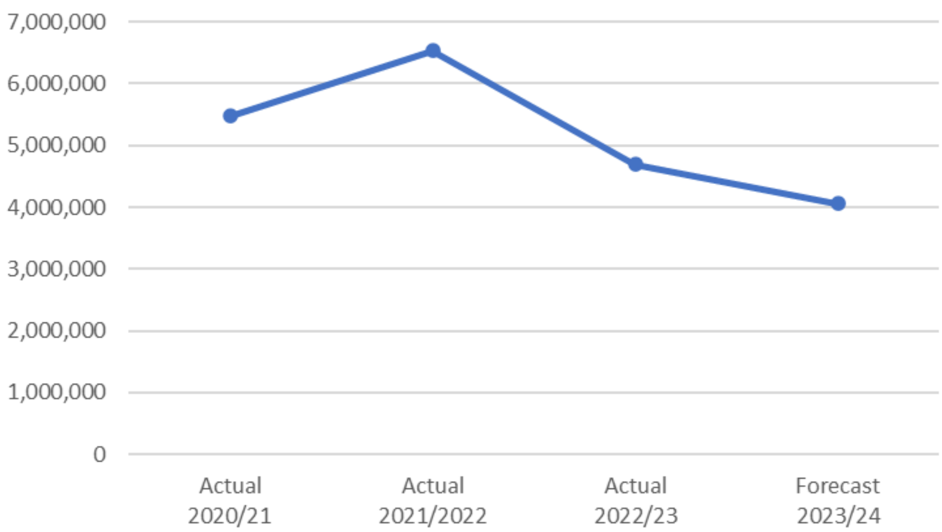
- The work requires **skills and expertise** not held within the Authority.
- The work requires an **independent view or evaluation** from outside the Authority.

[35] As consistent with the 'using contractors and consultants in the public sector' guidance": [Using contractors and consultants in the public sector | New Zealand Government Procurement]

- The Authority's requires some **extra short-term capacity** due to demands that need immediate action and have not been foreseen.
- There is an opportunity to **build long-term capability** by working with consultants or contractors that have skills or expertise that would be valuable to the Authority.
- A contractor or consultant can **support a function more efficiently** because its scale of operation is greater than what the Authority can achieve, for example, assisting with organisational design.

It is also important to highlight the unique commercial and economic expertise the Authority requires to deliver fundamental regulatory reform including monitoring, and compliance and enforcement. The Authority regulates, among other things, very large and complex commercial businesses, including Transpower whose staff are highly technical and specialised (as noted in the Hodgson investigation into the 9 August events[36]). To effectively regulate these entities, for example scrutinise their performance and implement changes to incentivise better performance for the benefit of consumers, the Authority needs access to highly technical resources, a lot of which are only available externally so there will always be a reliance on some external support.

Figure 2: Actual and forecast expenditure on external advice.



- *Note: This graph was updated in January 2024 to correct an error*

Trade-offs, phasing and scaling

Trade-offs between the proposed options

Table 1 outlines the key trade-offs between the 4 options in the business case, through describing the impacts and risks in relation to the preceding option. In summary,

- **Option 1** only provides funding for third-party contracts, and no funding for Authority operations. This means that the Authority will remain reactive, and not be able to respond to the significant changes that electricity industry is going to experience over the coming decades with the transition to net zero by 2050 (as detailed in the strategic case). There is a

[36] Investigation into electricity supply interruptions of 9 August 2021 (mbie.govt.nz)

real risk of regulatory failure under this option. Under this option, consumers and the industry can expect slow regulatory change and potential delays to rules that unlock the potential of innovation, future mass participation, distributed energy resources and services.

- **Option 2** enables the Authority to keep up with the significant changes that the industry is going to experience (and currently experiencing), however; it will be reactive in doing so. There is less risk of regulatory failure under this option. Under this option, system pressures will be managed and immediate areas of concern responded to. Consumers will receive a reliable supply of electricity and there will be some progress on unlocking the benefits of demand energy resources for consumers but it will be slow.
- **Option 3:** enables the Authority to not only keep pace, but also get ahead of the significant changes to the electricity that will occur with the transition. The Authority will be able to broaden its work programme and speed up delivery of work already underway. This will in greater benefits to consumers, through helping ensure they can benefit from new technologies, and face less costs than they would otherwise, under options 2 and 1. There is no risk of regulatory failure under this option. Under this option consumers and the industry can expect inclusive and timely decision making on what matters most now and in the medium to long term. Our most vulnerable consumers will see the Authority and other agencies joined up to take a systems response to energy hardship. Consumers and the industry will have more of a voice in regulatory decision making through more engagement. There will be significant progress towards realising the full benefits of enabling new technologies and changes to market operations.
- **Option 4:** relative to option 3, option 4 enables the Authority to lead and shape the evolution of the industry as it transitions to net zero. The Authority would be strongly future focused and resilient to unexpected events, such as the 9 August and UTS investigations. It would also enable the Authority to embed te ao Māori into everything it does. This would help ensure that the risks and costs to consumers of the transition are minimised, and the benefits from opportunities to consumers are maximised. There is no risk of regulatory failure under this option.

Phasing and scaling options

In the development of the business case the Authority considered whether the funding could be **time limited.** For example, a temporary increase in funding for four years. However, the resourcing increase intends to ensure effective regulation through the transition to net zero emissions. This means the resourcing increase will likely be required until this transition is complete. This could occur before 2050, but given there is considerable uncertainty around this, the Authority considers it’s not helpful to propose a timeframe for when resourcing could be pared back. Noting that every year the Authority is required to consult on its levy funding and this annual transparent process provides industry and other interested parties to comment on the intended amount and use of the appropriation. It also provides the opportunity to identify resource that is no longer required and therefore the potential to return any unused funding back to levy payers.

In the development of the business case the Authority considered whether the funding options should be **phased** to support a gradual ramp up. The following outlines the rationale behind not phasing options 1-3, and phasing option 4:

- The total cost for each option, as noted in Tables 1 and 3 are based on calculations of the full-year costs, at 2024/25 levels, for each option. Based on receiving funding approval in early

2024, the Authority envisages being able to commence the changes applicable to the approved option very early in the 2024/25 year.

- For **Option 2**, the savings from the phased on-boarding of new kaimahi are minimal and these savings will be fully offset by one-off recruitment and on-boarding costs.
- For **Option 3**, the number of new kaimahi is reasonably high relative to the Authority's current complement and the new roles will take several months to fill. The Authority has completed phasing calculations on the impacts of both the salary savings due to the phased recruitment of new kaimahi as well as the one-off costs associated with recruiting and on-boarding these new people and associated realignment of existing work teams to effectively bring the new kaimahi into the Authority. The calculations show there is a near equivalent offset in salary savings and one-off costs, and for this reason the costs stated for Option 3 do not increase in out years as the one-off set-up costs in 2024/25 will be replaced by a full year's salary in out years. In other words, we considered phasing the funding increase for option 3 but consider that this is not necessary. As outlined in the management case, work is already underway to support the current needs of the Authority and ensure business units can scale up as necessary.
- For **Option 4**, the recruitment of 100 new kaimahi will be a major exercise which is estimated to take most of the 2024/24 year. Calculations indicate that savings in the 2024/25 year associated with the phased on-boarding of new kaimahi could be circa $6.0m, and if this is the approved option then the Authority would seek to reduce the 2024/25 appropriation by this amount and then step up to the full cost for out years.

In the development of the business case the Authority considered whether additional **scaling** options should be provided. However, the Authority considers that each of the 4 options provides a work programme of different scales and that additional scaling options would create unnecessary complexity.

Comparing resourcing with similar regulators

The Authority looked into comparing the resourcing of the Authority with the resourcing of similar regulators. The purpose of this would be to provide an indication of whether the Authority had adequate resources relative to regulators of similar scope and who perform similar functions. We did not find any regulators that have a similar scope and functions to the Authority to be a helpful comparator.

The Organisation for Economic Cooperation and Development (OECD) commented on the difficulties of international comparisons:[37]

There are many factors that together determine the necessary resources for an efficiently-run economic regulator, making it difficult to assess the appropriate level of resources based on a simple international comparison. The appropriate level of resources of an efficiently run economic regulator could among others depend on:

- *The number of sectors overseen by the organisation;*
- *The scope of action of the organisation within each of these sectors;*

[37] 1. Equipping agile and autonomous regulators: main findings and conclusions | Equipping Agile and Autonomous Regulators | OECD iLibrary (oecd-ilibrary.org)

- *The size of the sector in terms of number of economic agents and total level of economic activity;*
- *The characteristics of economic agents in the sectors, including the extent of public ownership;*
- *The ambitions and policy goals for the sector, and the role, mission and objectives of the regulator in meeting these;*
- *Challenges faced by the sector, in terms of quality, financial sustainability, affordability and environmental concerns;*
- *The institutional framework in which the regulator operates;*
- *Other functions of the organisation, such as consumer protection, competition oversight and other regulatory roles.*

The Authority has looked at the issues and opportunities experienced by overseas jurisdictions and how they have responded as an input into additional areas the Authority may need to address.

Option 1 - No increase in operational funding

Overview - key points

Under Option 1, there is no increase to the Authority's current baseline, and no increase in FTE. This will mean that activities and services continue to be delivered at the same level, in the face of a changing environment. As a result, the effectiveness of the regulator will diminish as the industry continues to evolve. The risk of the transition being disorderly is high under Option 1, as the regulator is playing catch up and will face challenges in keeping up with the changing environment. This will likely result in higher costs to consumers and lower benefits for consumers than otherwise.

Without an increase to funding, the Authority will need to heavily rationalise its work programme to only the most critical work. This includes not responding fully to the final recommendations from the Market Development Advisory Group (due to be completed in December 2022) about the future design of the electricity market, or potentially delaying work (such as further improvements to the Financial Transmission Rights market) in response to more urgent matters as they arise.

The constrained resourcing of this approach risks exacerbating current risks, such as limited Code review changes.

The industry will continue to move into a fast-changing environment regardless of the Authority's ability to absorb and respond to these changes. The Authority currently does not have sufficient capacity or capability to lead the transition to renewable electricity or anticipate issues and deal with them before they become problems. The Authority will be reactive to changes in the sector/market, and will need to pause, or reduce the scope of, existing work in the event of a major event like a major incident or event, such as an unplanned power outage or an undesirable trading situation (UTS). The regulatory environment and the Code will continue to fall behind the natural evolution of the industry.

This would prevent the Authority getting ahead of issues before they occur and requiring reactive reprioritisation of resources to deal with urgent matters as they arise. Without proactive market engagement, some consumers may get left behind, and the transition may ultimately be more costly. Key risks, ultimately, are reduced security of supply, the Code becoming an increasing barrier to innovation, higher costs and, hence, higher prices for consumers.

Description – Option 1

The Act sets out the Authority's functions, describing the activities we perform and the tools through which we can pursue our statutory objective and ambitions. They can be summarised into five main functions. The Authority's core work is centred around these five main functions, as set out in its Statement of Intent (Amended 19 June 2023):[38],

- Promoting market development through market facilitation measures and amending the Code
- Protecting the interests of domestic and small business electricity consumers
- Day-to-day operation of the electricity system and markets, including contract management with the System Operator to ensure coordination in real time of supply and demand in the wholesale market
- Enforce compliance by ensuring that the Act, regulations under the Act, and the Code are followed by electricity industry participants
- Monitor the market, inform and educate market participants through making tools and information available.

Below, the activities undertaken under Option 1 are described (ie, the status quo). The description is structured around the five main functions plus corporate support services (and this structure is also used to describe the other options).

A breakdown of the number of FTE staff is provided at the end of the Option description. This is broken down by the Authority's business units. In total, the Authority has 132 FTE noting that this figure includes positions established in light of the funding approved earlier this year but not all of which have been filled (several are still in recruitment phase).

It is worth noting that the Authority's Annual Corporate Plan outlines the work programme for the 2023/24 year and how it contributes to the Authority's strategic ambitions.[39] The strategic baseline review has identified that it could be clearer how the Authority's overarching strategy is applied in its prioritisation of work. The Authority agrees and is working to improve the transparency of its work programme, how work is prioritised, and how this links back to its overarching strategy. For example, the Authority intends to publish its indicative work programme for 2024/25 along its levy consultation document, this was last done in 2019/20.

Promoting Market Development

Future security and resilience

This is a multi-year and multi-phase project focused on how to ensure the electricity system remains secure and resilient, particularly as the system transitions toward renewable generation as part of net zero carbon emissions. It is a key work programme in the Authority's Energy Transition Roadmap.[40]

The Future security and resilience (FSR) work programme is of highest priority to the Authority and will likely continue on its current course under Option 1.

The Code has been based on a centralised system comprising synchronous generation. It was not designed to enable the new technologies we see today or bi-directional power flows. To enable these changes, amending relevant sections of the Code in the next 12-18 months is critical.

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38 Statement of Intent 2021-2025 amendment (ea.govt.nz) The Authority's Statement of Performance Expectations goes into more detail around what the Authority is doing under each function: Statement_of_Performance_Expectations_2022-23.pdf (ea.govt.nz).

39 Annual Corporate Plan 2023/24 published | Electricity Authority (ea.govt.nz)

40 Roadmap - Transition to Low Emissions Energy System [v1.0] (iM ref 1337549.1) (ea.govt.nz)

The FSR work programme is currently scoped to help ensure the Code supports the uptake of new technologies and that New Zealand's power system remains stable, secure and resilient as it evolves over the coming decades. This work programme has identified parts of the Code to be reviewed and updated over the coming years, in addition to other activities, to ensure the future security and resilience of the electricity system.[41] Under Option 1, there is a risk of the required Code changes not being completed in a timely manner, which would result in consumer outcomes that are worse off than otherwise. The FSR work programme includes consideration of issues and opportunities with the current arrangements for system operation to help ensure they are for the long-term benefit of consumers as New Zealand transitions to net zero emissions.

Wholesale markets

Work in relation to wholesale markets focuses on progressing regulatory reform and new market mechanisms to encourage and enable investment in new renewable regeneration and the exit of fossil-fuelled generation.

The general theme of Option 1 is that urgent work and initiatives that have already been committed will go ahead but there is limited capacity to go beyond this.

Under Option 1, much of the focus of the Authority will be on implementing the recommendations made in the recent MDAG reports as well as the recommendations in the Wholesale Market Review. There are 93 recommendations in total and many relate specifically to wholesale markets. Under Option 1, resources are limited and priorities have to be established as to which recommendations are addressed first. Under Option 1, the Authority may need to defer work on some of the recommendations including, in particular, those that require more investigation and, hence, resources. This includes recommendations relating to:

- Augmenting markets
- Additional risk products
- Interactions with other agencies.

The response to major system events will cause significant disruption to work programmes as resources have to be diverted and the Authority lacks capacity and resilience to provide cover when diversion occurs. When these events occur and require urgent responses, other work will be deprioritised out of necessity.

The final phase of the Authority's real-time pricing (RTP) project went live in April this year. Two features of this are:

- A dispatch notification product which opens up a low-cost path for small-scale providers (eg, residential, solar and battery system aggregators) to bid and offer their resources into the wholesale market
- Enhancements to dispatchable demand which will allow large industrial consumers to bid in demand management into the wholesale market in a way that better suits the physical constraints of their plants and processes.

Although work on these initiatives will continue under Option 1, the work will be at a slower pace compared to what was envisaged at the time (August 2022) when the Authority first sought additional funding (at that stage for FY24 and out-years). A cost benefit analysis of the RTP work programme estimated the net benefit of RTP is between \$3.8 and \$19.1 million (though this excluded a number of

[41] Covering-Paper-FSR-Final-Roadmap-and-Phase-Three.pdf (ea.govt.nz)

benefits that weren't able to be monetised). Under Option 1 it will be more challenging to realise the benefits at the upper end of this range.

Other work included is in relation to settlement prices. Currently New Zealand operates with a 30 minute settlement process. Australia has recently moved to a five minute regime; shorter settlement periods provide better revenue certainty for flexibility providers and helps with managing the intermittent nature of wind and solar generation. A shift to a sub-30 minute settlement period would be a major piece of work and would be hard to progress given the capacity constraints under Option 1.

Under Option 1, the work addressing winter peak concerns will also continue; however, there is limited ability to address Sapere's recommendation for improvement in this area due to resource constraints and prioritisation.

Distribution

Work on distribution has two main strands:

- Reform of regulatory settings for the distribution sector which, primarily is focused on encouraging or requiring distributors to adopt new technology with the aim of reducing the cost of serving the significant increase in demand that is forecast in light of de-carbonisation.
- Network pricing which focuses on a wide raft of policy issues regarding the operation of networks with particular focus on the pricing signals that arise from the operation of those networks.

Regulatory settings

With respect to regulatory settings the focus is on regulatory changes to support, encourage or require greater uptake of technological solutions by distributors to reduce the cost of network expansion needed to support electrification of the economy. This will result in consumer benefits by helping ensure line charges are no higher than necessary. A good example is DER and distributed generation (DG) where regulatory change is needed to support their uptake. Sapere has identified that full implementation of DER and DG would deliver a benefit of up to $6.9 billion most of which ultimately accrues to consumers. Under Option 1, it will be more challenging to fully realise the benefits to consumers identified in the CBA.

There are a large number of projects that support policy objectives in relation to distribution. Earlier this year, the Authority consulted with the sector and from that consultation identified a shorter list of priority projects which have become the basis for the Authority's distribution regulatory reform work programme for the short to medium term (reflecting the highly dynamic environment, a long-term work programme is unrealistic).

Resource constraints under Option 1 are impeding the rate at which the issues can be addressed which reduces the likelihood of the full benefit identified by Sapere being delivered, and increases the costs which will fall on consumers.

It is worth noting there have been a number of submissions requesting the Authority put in place a "learning by doing" environment, which allow trials without some of the usual regulatory rules or obligations applying (sometimes called a "regulatory sandbox"). The Authority was given the statutory power to do something similar in legislative amendments last year, in that it can exempt an industry participant from the Code, on terms or conditions the Authority reasonably considers necessary. There is one trial under way now and it was highly resource intensive to put in place. Implementing more exemptions like this or establishing formal regulatory sandboxes will require additional resource and capabilities.

A number of stakeholders have requested the Authority develop a long-term strategy / roadmap for its distribution work. This would provide a framework for them to make long-term decisions, and provide a greater level of certainty for the investment environment both of which would contribute to better outcomes for consumers (given that the costs of non-optimal decisions are ultimately borne by consumers). Under Option 1, the Authority's current focus is on short-term deliverables and currently there is insufficient resource available to develop a long-term strategy.

The issues around DER and DG are not unique to New Zealand. Other jurisdictions are also tackling the same issues. Under Option 1, there is very limited capacity to follow and understand developments internationally which potentially means missed opportunities to do things better here and risks, therefore, of working inefficiently.

Network pricing

The Authority's work on reform of distribution network pricing will continue. However, the Authority will likely need to consider how to appropriately respond to increasingly granular needs, such as pricing signals for load control of consumer devices that may support the adoption of flexibility services, and maximising the benefits of new technologies for consumers. The scope and pace of the work risks being constrained, and there being limited bandwidth to engage with emerging problems without a resourcing uplift to meet those increasing and/or novel challenges. New issues with distribution network capacity allocation, engagement with climate policy developments and expanded policy work on network connection / capital contribution issues may need to be deprioritised where there are competing resourcing pressures. In such a case, the Authority's stance would necessarily be more reactive.

A risk then may be that emerging issues (eg, around distribution network capacity) are not addressed in as timely a manner, so network problems arise that could have been avoided if the Authority had the resources available to engage earlier. There is also a risk that new Transmission Pricing Methodology (TPM) proposals result in other work being halted for significant periods of time. There would be reduced ability to learn from international policy developments and limited opportunity to explore impacts on energy hardship and engage with a broader range of stakeholders in a time or resource pressured environment.

Code amendments

There is currently a backlog of minor and technical changes to the Code that the Authority will continue to work through as and when capacity permits. The regular Code review process was recently restarted after a hiatus during the response to COVID-19, but limited resourcing restricts these to the most urgent or the easiest to amend.

There is limited ability to deal with the frequency and complexity of further Code changes required by the transition to net zero carbon emissions and the continued innovation and evolution of the industry (for example, the switching process still does not properly take advantage of smart meters). The Authority will be able to address some issues with the Code amendment process but will not be able to increase the pace of addressing these changes. For example, promoting demand response (DR) and Distributed Energy Resources (DER) in the wholesale market will be limited to reacting to industry requests and minimal changes to systems and tools. The Authority would likely prioritise integrating wind generation (into the wholesale market). Work on integrating solar generation may need to be deferred.

Notwithstanding the large number of Code amendments that have been made over the years, the Code is well and truly out of date in many of its sections and stakeholders have been calling for significant amendments for some while. There is a need for fundamental review of the Code (a point which the baseline review has made) but, under Option 1, the Authority does not have sufficient resources to undertake such a review.

Protecting the interests of small electricity customers

The legislative amendment that adds a statutory objective of protecting the interests of domestic and small business consumers came into force in December 2022.

Protecting the interests of domestic and small business consumers is resource intensive for several reasons:

- There are multiple interests and concerns among the individuals and small businesses – this is not a homogenous group. A lot of evidence and engagement is necessary to identify the issues and concerns
- A one size fits all approach to developing solutions will not work well – responses need to be tailored
- These groups are hard to get to because of their diversity; and in some cases, particularly among the most vulnerable, it is likely that they will not be keen to engage with the regulator (or government agencies more generally).

Work is being undertaken to strengthen and enhance Consumer Care Guidelines. The review of the guidelines is one way the Authority can give effect to its additional statutory objective. Under Option 1 of this business case, this work will continue but at a pace that is slower than that which could be achieved with more resources.

Issues which have been raised by consumer advocacy groups as key failings in the current system would not be addressed as quickly as required where intervention is warranted to improve consumer outcomes. Option 1 will fall short of these expectations. The rapid pace of change in the electricity system is only likely to lead to greater calls for intervention to protect consumers.

This work on reviewing the Consumer Care guidelines has been split into two phases. Phase 1 stems from the recently completed review of self-assessments undertaken by electricity retailers. That review has found that retailers' alignment with consumer care guidelines (which took effect on 1 July 2021) is variable and implementation has not been as consistent as expected. Phase 1 involves going out for consultation in September 2023 with proposals to make some parts of the existing guidelines mandatory. On current plan, it will take until around mid-2024 to implement the most appropriate options to provide confidence that all retailers take their responsibilities toward consumers seriously.

Phase 1 will continue under Option 1. This is, in effect, a "minimum viable product". The consumer advocacy sector will likely view this as limited or, perhaps, insufficient progress.

Phase 2 is intended to focus on a range of wider issues that have been raised by consumer advocacy groups, and which they see as failings in the current system. Resourcing constraints under this option severely limit both when this work can be started and the pace at which it can be carried out.

Work on developing options for future additions, and/or alternatives, to Powerswitch will continue. The Authority would like to undertake further work into how to provide better information to, and improve switching services for, low income and vulnerable consumers. The limited resource available to work on this issue means that work will continue at a slower pace and will be less comprehensive.

Understanding retailer alignment with Consumer Care Guidelines is an important input to work on the guidelines (including the issue of making some guidelines mandatory). However, the process for collecting data relevant to this work is complex. The limited resource currently allocated to this work means that the project was slower to begin than anticipated. This is risks delaying the realisation of benefits for consumers.

In 2024, the Authority plans to collect from retailers significantly more data about residential consumption. The new data will provide significant opportunities to analyse and identify trends, risks, opportunities and issues. This is necessary to enable the Authority to proactively identify issues and address them for the benefit of consumers. Under current staffing levels, there will be only limited capacity to analyse this data to draw fresh insights, creating a significant risk that the benefits of this new data will not be realised, to the detriment of consumers who expect the Authority to be doing more in this area. It also means that policy work does not have the strength of the evidence base that could otherwise be developed if more analytical capacity was funded.

Operating the electricity system and markets

As noted at the beginning of the Economic Case, the Authority is responsible for administering contracts with the third parties who provide services that play crucial roles in the functioning of the electricity system and markets. Currently, the level of funding for third party service providers is around $70 million per year. Under Option 1, the Authority continues to operate in a “keeping up” mode reacting to initiatives proposed by the service providers (most of which relate to System Operator).

Reflecting resource constraints, there would not be fundamental changes to the oversight of the System Operator Service Provider Agreement (SOSPA); instead, changes to the SOSPA oversight will be more ad-hoc in nature and focused on “low-hanging fruit”. As a result, there are, potentially, missed opportunities to hold System Operator, and the other service providers, better to account and to ensure that the electricity system and markets operate as efficiently as possible.

As noted earlier, it is likely that the cost of the SOSPA and other third-party service provider contracts will increase which, under current funding arrangements, would erode the funding available for the Authority’s functions.

Enforcing compliance

The theme under Option 1 with respect to compliance is one of incremental improvement in the timeliness of delivery (ie, response to breaches). The Authority hopes to maintain the number of open cases of alleged breaches at a manageable level. However, as the industry moves toward renewable energy and the Code consequently needs updating, it will be challenging to keep pace and maintain the effectiveness of ensuring compliance in two main respects.

First, there is an increasing need to educate and inform participants about the changes in their compliance requirements. Compliance is not just enforcement; it is also about trying to encourage the right behaviours in the first place. The Compliance team will have a dedicated FTE staff to design and implement a compliance education programme to participants. The Authority intends to establish participant regulatory forums to analyse and discuss compliance trends, issues and solutions. Beyond this, however, there is limited capacity to be proactive in the market and increase efficiency through utilising resources and applications in international markets. An education campaign/programme will be delivered but this will be at a slower pace.

The second implication stemming from regulatory changes, including to the Code, is that an increase in non-compliance is almost certainly inevitable notwithstanding best efforts, despite resource constraints to inform and educate participants about the changes. The Authority’s ability to step up enforcement is compromised without further funding.

Monitoring, informing and educating

The drivers of activities are generally external to the team, whether events, market events such as undesirable trading situation (UTS) claims, or the work of other teams.

As part of the additional funding approved earlier this year, one senior analyst and two analysts are being added to the monitoring team. The extra resource is being used to improve the service provided to, and support for, other teams including, in particular, policy and compliance. This is enabling more analysis to be undertaken (and at a faster pace) as well as enabling the team to address and resolve trading conduct questions more quickly. As noted in the baseline review, the work of the monitoring team is generally positive.[42]

Notwithstanding the points above, adding three positions to the monitoring team has resulted in a situation where the manager has 13 direct reports. As a result, much of the manager's time is being spent dealing with day-to-day issues and not enough time for focusing on developing a more strategic approach to the team's work.

The Monitoring team is a centre of excellence for insights in the Authority, which both inform consumers and stakeholders and inform the Authority's work – from compliance to policy. Limited capacity to deliver insights impacts both trust and confidence of stakeholders and the quality of the work the Authority delivers. Part of delivering insights includes understanding international markets and developments, which would be extremely curtailed under this option.

Communications and engagement

Communications and engagement is not explicitly referred to as one of the five main functions of the Authority. Although the team contributes to all the main functions, for the purposes of the business case we have included it as part of monitoring, informing and educating.

Communications and engagement will continue to deliver project support, but opportunities to improve visibility and understanding of the Authority's work and of the system in general will not be realised. Consistent with the general theme under Option 1 of the Authority being reactive rather than proactive:

- The website and other channels will be maintained, rather than improved or have their full potential maximised
- There will not be digital improvements and industry participants will continue to have to interact with the Authority through multiple platforms as there will be no scope to integrate platforms and create one seamless participant experience
- Use of media generally will be reactive rather than proactive
- Education is ad hoc and reactive
- Stakeholder engagement will be supported but not planned and sequenced with focus on regular engagements (including CE and Board speaking opportunities). There would be limited resources to upskill project teams on engagement and to have an organisation-wide view of key stakeholders
- The strategic narrative of the organisation is developed through project-specific communications rather than an approach that lifts above this and that is more strategic and pan-organisation in nature

42 Sapere (2023), op. cit., p24

- Relationships with other agencies will be maintained rather than strengthened and developed, which will limit the ability to progress cross-agency/system approaches to regulating the electricity sector and utilise these relationships when responding to unexpected major events.

Corporate support functions

Legal

The work of the legal team is driven largely by levels of activity elsewhere in the organisation. The legal team supports policy projects, the commercial team, compliance, organisational accountability and performance, monitoring, the roles performed by the Chief Executive and Senior Leadership Team (SLT), the People and capability (P&C) team, and communications and engagement.

Workloads across these areas has been increasing at a faster rate than the legal support function. The legal team estimates that growth in legal demands has been roughly twice the rate of increase in the capacity of the team. The baseline review noted that the legal team has been working under a lot of pressure in recent years particularly in relation to the 9 August 2021 event and subsequent reviews as well as increased judicial reviews and litigation.[43] Accordingly, under the current state (Option 1), the demands being placed on the legal team have saturated available capacity to the point where further demand cannot be absorbed.

This is an issue because recent changes to the Act have increased the penalties for non-compliance. The higher penalties are likely to spur some to defend their position more strenuously when the regulator takes action to address non-compliance, particularly where prosecution is the appropriate form of regulatory response. This, in turn, means more work for the legal team.

Investigating UTS claims has become increasingly resource intensive. Since 2018, the Authority has needed to divert substantial resource to investigating UTS claims. The Authority has only been resourced for infrequent and simple UTS investigations. From 2011 to 2018 there were only three UTS claims, and they were relatively straightforward. However, in recent years the frequency and complexity of UTS claims have increased. This has resulted in the Authority diverting significant resources away from other activities to prioritise these investigations. For example, the 2019 UTS investigation required more than three FTEs and additional senior resource over the course of a year and $0.250 million in external costs to complete. The Authority sees no sign of the frequency and complexity of the UTS claims abating.

In 2022 the Authority amended the Code to increase the visibility of very large physical contracts and prohibit these contracts where they are inefficient. Prohibiting these contacts when they are inefficient has significant benefits to consumers, for example, the Authority estimated that the potential efficiency losses from the contract between Meridian and NZ Aluminium Smelters in 2021 ranged from $57 million to $117 million.

This Code change also established a clearance regime for large contracts, which would otherwise be in breach of the Code. There are likely to be a number of clearance applications over the coming years, which will require significant resourcing to assess (in particular legal and monitoring resource). Without additional resource, this resource will likely need to be reallocated from other work programmes.

43 Sapere (2023), op. cit., p22

Corporate and market services (CMS)

CMS includes the finance function, risk and assurance, and responsibilities in relation to organisational accountability and performance. The monitoring and management of the major third party service provider contracts (eg, with System Operator and MOSPs) also falls under CMS but has been discussed earlier.

Under Option 1, it is largely business-as-usual for the CMS team. The baseline review has identified several areas requiring improvement that fall within the responsibilities of CMS. These include the following.

- Project management. The baseline review recommends that improvements be made in terms of understanding the links between projects, their resource demands and organisational planning and strategy. Currently, the Authority does not have any centralised project/programme management capability. As a result, approaches to project/programme management are not consistent or coordinated.
- Risk management. The baseline review notes a need for further improvement in the Authority's reporting of, and internal culture towards, risk management.[44] The reviewers found that it was often unclear and difficult to understand how effectively risks were being addressed in the four-monthly risk reports. Although a risk management framework has been implemented, the culture and "doing" of risk management could be improved.
- Internal review processes. Somewhat related to the points above, the baseline reviewer has commented that poor internal review processes is an issue that has been highlighted both internally within the Authority (through annual staff surveys) and externally by stakeholders. There appears to be a widely held view that lack of good review processes is impeding effective project management and the Authority's ability to act on lessons and prioritise resources.

The Authority concurs with the findings of the baseline review that the three areas above are in need of improvement. Some steps are already being taken to address the issues. For example, an effective and informative risk dashboard is expected to be implemented later this year. However, the Authority's capacity to make progress at a faster pace is constrained under Option 1 because of the lack of resources.

People and capability (P&C)

P&C responsibilities include health and safety, wellness, generalist human resources and employment relations, organisational development, learning and development strategic recruitment (and support for recruiting managers) and payroll. There are existing pressure points and risks.

- Overall, capacity constraints mean that the team is at full capacity and operating in reactive mode. There is no capacity to address matters beyond business as usual. If significant issues arise, the team lacks resilience to backfill when resources are diverted to address those issues
- The team relies on third parties for work on organisational development which limits the ability to take a strategic and structured approach
- There are no FTEs dedicated to learning and development. This means the centre provides only limited L&D support to business units throughout the organisation. Business units largely fend for themselves which is inefficient (for example, different parts of the organisation contracting third parties for delivery of essentially similar training – one contract or, better yet, in-house provision would be more cost effective)

44 Sapere (2023), op. cit., p43

- There is a critical person risk in relation to payroll.

Under Option 1, the work of the P&C team can be summarised as being business-as-usual with no capacity to develop in key areas and/or reduce existing risk exposures.

Data and information management

The data and information management team performs two main roles; data (quantitative analysis that supports work in other areas including, in particular, monitoring) and traditional IT functions. The team plays a key role in providing data and market performance metrics that supports more effective decision-making within the New Zealand electricity industry, which ultimately leads to better outcomes for consumers.

The Authority has been investing to improve its systems and processes in relation to IT and data management but there are some gaps in knowledge and information management. The Authority assesses its data management systems to be in good shape but the same is not true for information management systems in relation to documents. A Public Records Act audit undertaken in mid-2022 found that the Authority was at the lower end of the information management maturity scale. The Authority's document management system is iManage. This is a dated system that many other government agencies have used but have replaced in favour of better systems.

As part of the additional funding that was approved earlier this year, the Authority has established a new position - Senior Advisor Information Security (although the position is yet to be filled). The Senior Advisor's roles will include:

- Contributing to the design and build out of a fit-for-purpose information governance regime at the Authority
- Leading the development and maintenance of the Authority's information security strategy, policies, standards, and procedures
- Assisting with establishing a right-sized Certification and Accreditation (C&A) framework (the C&A framework is the systematic process for evaluating, describing, testing, procuring and authorising business systems or activities prior to a new system being introduced, and ensuring compliance with all legislation, regulations and internal policies on an ongoing basis).

Although this is a helpful addition to the team, there are remaining gaps and risks. Apart from the issues around information management, there are gaps and risks stemming from the fact that currently there is not a lot of quantitative analytical capacity within the existing team. There is a key person risk around the principal analyst who is spread too thinly across too many workstreams. The team is struggling to keep pace with the demand for analysis, the extent of which is increasingly driven by the transition to renewables and the issues and challenges the transition is posing. Quantitative analytical support is needed, over and above current resources, to develop new content for the Electricity Market Information (EMI) website which is the main channel through which the Authority publishes data, market performance metrics and analytical tools to facilitate effective decision-making within the New Zealand electricity industry.

As the data received by the Authority increases in volume and in granularity, there are increasing privacy and data management concerns that will need to be addressed. Capacity constraints under Option 1 mean it will be difficult to keep up.

Office of Chief Executive (OCE)

The Office of the Chief Executive comprises an executive assistant, Board Secretary, and an executive advisor (as well as the Chief Executive). This will continue under Option 1.

Resourcing

Table 8: Resourcing - current FTE staff

Resourcing - current FTE staff

Business Units	Option 1
Market Operation Policy + Real Time Pricing	8.4
Wholesale Market Competition	13.4
Future Security & Resilience	6.2
Consumer Care	6.0
Distribution regulatory reform	5.2
Network Pricing	7.0
Legal	8.5
Compliance	12.5
Monitoring	14.3
Organisational Performance & Delivery	11.7
System Operator oversight / Commercial	6.6
People & Capability	8.0
Data & Information Management	10.6
Communications & Engagement	9.6
Office of the CE	4.0
New Market Policy Team	0.0
Total FTE	132.0

Table 9: Allocation of new FTE across options by business unit: Option 1

New FTE are denoted incrementally (Business Units)	Current state	Option 1	Option 2	Option 3	Option 4
Market Operation Policy + Real Time Pricing	8.4	0	2	2	2
Wholesale Market Competition	13.4	0	1	2	1
Future Security & Resilience	6.2	0	1	1	1
Consumer Care	6.0	0	1	3	5
Distribution regulatory reform	5.2	0	2	4	3
Network Pricing	7.0	0	2	3	4
Legal	8.5	0	2.5	1.5	3
Compliance	12.5	0	3	3	3
Monitoring	14.3	0	1	4	4
Organisational Performance & Delivery	11.7	0	1	3	1
System Operator oversight / commercial	6.6	0	1	1	1
People & Capability	8.0	0	2	2	1
Data & Information Management	10.6	0	2	3	1
Communications & Engagement	9.6	0	2	3	1
Office of the CE	4.0	0	0	1	3.5
New Market Policy Team	0.0	0	2	2	1
Incremental New FTE	0	0	25.5	38.5	35.5
Accumulative Total FTE	132.0	132.0	157.5	196.0	231.5

Table 10: Expenditure by core regulatory function: Option 1

(expressed in millions of dollars)	2023/24 total	Option 1 incremental costs	Option 1 2024/25 total
Promote market development	$11.2	$0.0	$11.2
Monitor, inform and educate	$6.1	$0.0	$6.1
Protect the interests of small consumers	$4.1	$0.0	$4.1
Operate the electricity system and markets	$75.8	$7.6	$83.4
Enforce compliance	$3.6	$0.0	$3.6
Total Authority costs	**$100.8**	**$7.6**	**$108.4**

The Authority's expenditure has been attributed to its core regulatory functions, as detailed above. The allocation methodology attributes personnel and external costs directly to the appropriate function where directly linked, but costs which do not have a direct link are treated as overheads, eg office rent costs or support staff costs. Overheads are allocated to our core regulatory functions based on an appropriate underlying measure eg full-time equivalent employees.

Assessment – Option 1

Option 1 is not recommended for several reasons. With no increase to current funding, the Authority has a limited ability to meet its statutory objectives and strategic outcomes. The Authority will not be leading the transition and will be reactive to issues brought forward by the industry. This may ultimately lead to suboptimal outcomes and increased costs for consumers, particularly small consumers and small businesses, as there is no ability to increase engagement with these groups without an increase to funding.

Strategic alignment - preparing for the transition

As the industry/sector continues to transition to renewable electricity, with limited resources the Authority cannot be a proactive regulator. Under Option 1, it is clear that the Authority is only able to take a short term view. Without dedicated resources to manage more effectively and operate proactively, the Authority will be limited to trying to address issues when they arise, whilst also addressing the growing backlog of changes that already exist. The risk exists that there will be a piecemeal response that deals with individual issues but no assessment of the collective impact on consumers.

The Authority will also be relatively inefficient with its use of existing resources. Without being able to step back to create a cohesive work plan that leverages on work already being done in the sector, the Authority will struggle to:

- Actively engage with all consumers
- Work effectively with other agencies
- Be active in monitoring and leveraging developments internationally
- Manage existing resources effectively with too much reliance on external consultants/advisors (there are financial risks in seeking to hire permanent staff without certainty of funding).

The ability to deliver projects on a timely basis that delivers maximum impact will be limited. Timing delays due to resourcing constraints will continue (and lead to higher cost of delivery). For example:

- Options for future additions, and/or alternatives, to Powerswitch are currently being considered with the objective of going to the Board in December, despite the Board directing in October 2022 for this work to be started
- Understanding retailer alignment with Consumer Care guidelines is a core input to Consumer Care guidelines work. The project is already running at least a month behind the optimum timeline which is causing confusion and angst with some retailers. This project was even more under-resourced last year with a series of issues arising that served to reduce stakeholder confidence in the Authority.

Work on security and resilience will continue as the FSR work programme is not deprioritised although, notwithstanding that, it is likely that some projects will not be delivered within required timeframes to minimise the risks to the security and resilience of the power system.

Resource constraints slow the rate of progress with Code review and amendments. This serves to undermine participant confidence in the ability of the regulator to keep up with innovation and could result in a situation where the regulator, and regulatory environment, becomes a barrier to innovation.

Without getting ahead of industry issues, the Authority will be reactive to issues presented by the industry, and will be under pressure to react to these without the ability to learn from other markets and fully engage with consumers to reach the most equitable outcomes. There are projects that the industry is asking for that are at risk of continuing to be deprioritised due to resourcing constraints, such as:

- Non-trading relationships project
- Integration of batteries in the wholesale market

The Act introduced an additional statutory objective of the Authority to protect the interests of domestic consumers and small business consumers. Under Option 1, there is more limited ability to tailor the work programme of the Authority as much as it might like, or further engage directly with these consumers to find out what their needs are. Consistent with the Minister's Letter of Expectations, the Authority will seek to engage with consumer groups including the Consumer Advocacy Council and Energy Hardship Reference Group but the level of engagement will be constrained. Without increased engagement, consumers, especially harder to reach consumers, will not be sufficiently at the centre of the Authority's operations for the consumer outcomes that we would otherwise be able to achieve. Their needs risk not being adequately reflected in the work plan of the Authority.

Under Option 1, the Authority has little to no flex capacity to deal with unexpected events (such as the 9 August, 2021 outage) as they arise. There is no room for proactive scoping of events that could be coming and putting prevention and contingency plans in place. There is also the risk of losing constituency of the industry for the transition, as firms ultimately do not make the transition to renewable energy because of an unstable regulatory environment.

Without additional funding the Authority will be unable to fully deliver the expectations outlined in the enduring LOE. This will have implications on the Authority's ability to engage with Iwi/Māori and its ability to support the Māori/Crown relationship and its performance as a Crown entity. The Authority will not be able to deliver to these obligations:

- The Authority is required to regularly partner with iwi through frequent engagement. The Authority is best able to perform as kaitiaki of the electricity system in Aotearoa if it knows its impact on all New Zealanders, including Māori, hapū and iwi. Not investing in this area risks Māori consumers continuing to be underrepresented in the Authority's engagement
- The Authority is also required to have internal capability to embed a te ao Māori approach into its way of working, as outlined in the LOE. Increased internal capability enables a redesign of the Authority's processes, to be more mana-upholding and consider a Māori worldview.

Without actively fostering relationships with consumers through engagement and other industry stakeholders, people will start to lose trust in the regulator as they know they are not able to keep pace with the changing environment. There is high reputational risk that issues will be presented by the industry/sector that the Authority has not been able to get ahead of; as well as unexpected events (eg, August 9th outages) occurring that the Authority has limited capacity to respond to.

Competition will not be reflective of the changing environment if Code changes cannot keep up with technology, however this will be largely dictated by the industry as the Authority is lagging behind the transition. Innovation will also be limited under this option as investment in renewables and other areas that are dependent on a stable regulatory landscape that is equipped to deal with new technology will not be realised. This will reduce both the total investment into New Zealand and cause domestic investment to instead go to overseas markets.

Economic alignment - value for money

Option 1 does not offer high value for money. Due to resource constraints and having to prioritise, there are many missed opportunities, both for specific projects of work and realising efficiencies from being able to better allocate resources. There may be an ultimately higher cost by not taking a long run view, as work continues to be duplicated and is not completed on a timely basis. Additionally, the Authority will find it challenging to reduce its reliance on external consultants, as it will be less able to build this capability internally, be more reactive to issues, and be less able to respond to unexpected issues.

Commercial alignment - supplier capacity and capability

Conditional that additional funding is provided for third party service providers (as discussed at the beginning of the Economic Case), then Option 1 aligns well commercially, as suppliers are able to deliver on current work-plan and this will continue with no change.

Financial alignment - affordability

Option 1 requires no more funding for the Authority's operations (but, as discussed earlier, additional funding for third party service providers is needed to avoid reducing the amount available to fund the Authority's operations). Option 1 is the least expensive of the four options.

Although there are no explicit additional costs to levy payers (in relation to the Authority's operations), there are some implicit costs that must be considered. This option would only allow the Authority to take a short term view to the transition and its regulation, which could ultimately cost consumers more in the long run. This is reinforced by no ability to increase engagement and fully understand the needs of individual (including hard to reach) consumers, meaning policy will not be as tailored to their specific needs, and could impose greater cost than otherwise. The Authority will struggle to keep up with growing demands, and the backlog of activities will continue to grow as the transition occurs.

Management alignment - achievability

Management alignment focuses primarily on the capacity and capability of the Authority to manage and implement organisational changes under each of the options. Because Option 1 does not involve any additional funding, it is in effect, likely to be delivered successfully, as the market is currently enabled to deliver the Authority's work plan, and there are no changes to this under Option 1.

Alignment with Sapere recommendations

Whilst being identified in the Sapere report as a key area for improvement, Communications and Engagement will not change without an increase to funding. As a result, the Authority will continue to operate with limited ability to engage with consumers and will struggle to keep up with the transition net zero carbon emissions. Without increased engagement, the Authority will not be able to fully understand the needs of their consumers, especially those that are harder to reach, including vulnerable or medically dependent consumers and small businesses. There will be no tailoring of activities to meet the needs of these customers, and blanket treatment will be applied due to funding constraints. This will lead to a disorderly transition that is not led by the regulator, and ultimately may make the transition more costly to consumers.

Assessment table

Table 11: Options assessment: Option 1

The option is assessed according to 6 criteria, on a four point scale, laid out below in the key.

Key	Not at all	To some extent / somewhat	Quite a lot / mostly	Fully
	■□□□	■■□□	■■■□	■■■■

Criteria	Option 1	Option 2	Option 3	Option 4
Strategic alignment	■□□□	■■□□	■■■■	■■■■
Economic alignment	■□□□	■■□□	■■■■	■■■■
Commercial alignment	■■■■	■■■■	■■■□	■■□□
Financial alignment	■■■■	■■■□	■■■□	■■□□
Management alignment	■■■■	■■■■	■■■□	■■□□
Sapere recommendations alignment	■■□□	■■■□	■■■■	■■■■

Option 2 - Relieving pressure

Overview – key points

Option 2 enables the Authority to address a number of key pressure points that have arisen because of constrained and declining levels of funding (in real terms). The pressure points include:

- Promoting market development – the Authority is struggling to keep pace with the changes to policy, rules and the Code that are needed in light of the increasingly fast pace of technology change and transition toward 100% renewable electricity. The Authority has made a concerted effort to reduce the large backlog of Code changes but this has required some difficult trade-offs in terms of deferring other important projects (including delaying the switching process review and a project focused on developing new fields for the registry).
- Engagement – the Sapere baseline review report has identified engagement and relationships with other regulators as being important areas for improvement. The Authority agrees with this assessment; engagement with stakeholders needs to be sooner and there needs to be more of it. Strengthening the relationships with other regulators (and agencies) is an important part of being a regulatory steward and ensuring the regulatory system as a whole functions efficiently and effectively.
- Enforcement - as noted in the Sapere baseline review, efforts to catch up on the backlog of compliance and enforcement cases has been at the expense of education aimed at promoting compliance. Furthermore, recent changes to increase penalties for non-compliance is likely to increase the amount of resource needed for cases (because parties are more likely to defend their position).
- Investing in corporate support functions has been deprioritised over recent years to maintain funding as far as possible for front-line responsibilities. As a result, there are aspects of corporate support (eg for finance and People & Capability) that fall below normal corporate hygiene standards.

Although the funding under Option 2 helps with addressing the most acute pressure points, the Authority will continue to struggle to keep up with the pace of change. Option 2 relieves pressure but means some important pieces of work will continue to progress at a slow pace. Option 2 provides only modest resilience in the form of capacity to address unplanned events (eg, another 9 August 2021 event) without significant disruption for business-as-usual.

Industry will still have concerns about the responsiveness of the Authority. Consumers, especially domestic and small business consumers, will still likely not see the level of targeted activity desirable given potential resourcing constraints.

Description – Option 2

Promoting market development

Future security and resilience

The Future Security and Resilience (FSR) work programme continues to be a high priority for the Authority. Under Option 2, the addition of 1 analyst will accelerate work on reviewing and updating parts of the Code that currently do not enable the effects of new technologies and bi-directional power flows. Furthermore, the Authority will be better placed to scope and plan for other FSR projects, including reviewing future systems operations, to help ensure improvements for the long-term benefit of consumers as New Zealand transitions to net zero emissions. These operations need to be reviewed as electricity distribution businesses become individual system operators due to the DER within their networks.

Additional resource means more effort can be directed toward addressing winter peak concerns. Sapere has identified this as a priority area for improvement. The Authority was able to make progress with the Winter 23 project, including consulting on 11 options to better manage risks to electricity supply during peak demand periods in Winter 23, and implementing four of these as temporary measures. However, as winter peak concerns become increasing important in the transition, additional resourcing will be required to develop new measures to manage risk, in additional to reviewing and implementing on a permanent basis the temporary measures from Winter 23.

Wholesale markets

A key priority is work on providing market structures that underpin incentives to encourage new generation. This includes working on many of the recommendations in the MDAG and BCG reports. Under Option 1, some of the recommendations from the MDAG and BCG reports would not be addressed because they require more investigation by the Authority. Under Option 2, 1 senior analyst is introduced, and these recommendations would be addressed, albeit at a slower pace than the Authority and industry would prefer. This includes recommendations relating to augmenting markets and developing additional risk products.

The Authority has recently established a small operations policy team. The additional resource sought (1 principal advisor, 1 advisor) for this team means the Authority would have some capacity to address some of the growing list of enhancements from industry and System Operator. The Authority stopped receiving industry-suggested Code amendments two years ago. In its place, a Code review was set up to address minor Code errors and clarifications, but was then paused due to lack of resources. The review has restarted but is operating at a slow pace. More structured reviews of the industry's operational processes and supporting Code have also been paused. The review of switching processes was approximately three-quarters complete when paused.

More resource would enable the Authority to accelerate the programme, and restart the Code amendment request process and complete the switching process review. This would then lead to initiating some workstreams to address medium priority Code amendment requests. At this stage it is not sensible to determine which Code amendments would take precedence as some work would first need to be done to prioritise.

An additional 1 project manager could be directed to getting ahead of immediate (1 year) System Operator issues and the Authority could start building in-house knowledge of the wider operating context within which System Operator runs the system (which is consistent with being a "responsive" regulator). Albeit at a modest pace, these additional resources would enable the Authority to update policy, procedures, guidelines, and tools relating to System Operator which is important for the timely and efficient integration of DER into the system.

In addition to work involving System Operator, the additional resource under Option 2 would enable the Authority to increase its work in a few other areas. For example, the Authority would be able to drive a forward view of the Security and Reliability Council (SRC) work programme and advice. The SRC provides independent advice to the Authority and the Authority provides a small secretariat function to support the SRC's work. Currently the SRC's work programme does not look more than a couple of meetings ahead. More resource would enable the Authority to better support the SRC and develop (and execute) a more forward-looking programme of work.

Option 2 involves adding some analytic capacity that can be directed toward forecasting and in particular, better forecasting of when intermittent generation is expected to occur based on weather patterns, which will likely become more unpredictable, driven by climate change. The efficient operation of markets requires, among other things, well informed participants.

Option 2 provides a more capacity to address and implement recommendations that come from responses to significant wholesale market events, such as the 9 August 2021 outage event that led to a review under the Act and ministerial investigation. However, in general responding to such events will still have major disruption to business as usual.

With respect to the Real Time Pricing project, the Authority would be able to:

- Start investigating the sub-30 minute settlement option (referred to earlier in the context of Option 1) but progress with this would be slow
- Expand and promote work on dispatch notification and dispatchable demand (also referred to in Option 1)
- Undertake a limited amount of work to investigate options to address peak management issues due to variable renewable generation.

A new market policy team established under Option 2. This would enable the Authority to initiate and complete substantive reviews to the industry's operational processes and supporting Code in a timelier way.

In summary, although Option 2 enables more work to be undertaken in relation to wholesale markets, the work continues to be in the nature of incremental changes to wholesale market settings rather than a more fundamental review. Option 2 does not provide sufficient resources to progress new areas of work in a particularly timely and comprehensive way; rather the additional resource would enable progress across more initiatives but at a slow pace.

Distribution

Regulatory settings

Changes to regulatory settings for the distribution sector are needed to unlock the potential of new technologies and new investments for the benefit of consumers. Distribution networks are not prepared for the rapid increase in electrification and DER that the decarbonisation of the electricity system and the wider economy will require. Without change, this raises the risk of increasingly constrained distribution networks, less reliable services for consumers and higher costs if distributors over invest in conventional network expansion. A cost-benefit analysis undertaken by Sapere has estimated that if DERs were to realise their potential, the net benefit from 2021 to 2050 could be $6.9 billion, most of which will ultimately accrue to consumers.

Notwithstanding these potential benefits, the Authority considers that there might need to be stronger incentives in order for distributors to, to pursue technology and investment opportunities; as some distributors may be inclined to persist with what they already have, rather than adopting new solutions and ways of working. They do not necessarily have strong incentives to promote DER if this lessens the need for investment in networks and, hence, the size of distribution businesses.

Some regulatory settings for distribution networks are proposed to be reformed. There are multiple work streams that need to be progressed in support of changing regulatory settings. Progress with some of these could be made under Option 2. In particular, work would likely be broadly centred around three main workstreams:

- Improving access and availability of key data and information that is aimed at helping distributors and flexibility traders unlock the potential of DER
- Implementing changes to electricity supply standards and technical regulations to enable greater uptake of DER

- Reviewing and amending market settings so that the regulatory regime better incentivises investment in flexibility services (in preference to building more network infrastructure), and fosters competitive procurement of flexibility services.

Although the 2 additional resources in Option 2 (1 senior analyst, 1 analyst) will enable the Authority to deliver a greater rate of progress (more issues addressed faster than Option 1), progress will still be slower than the sector will demand, and there is a risk that not all of the $6.9 billion benefit identified by Sapere will be realised.

Network pricing

DER involves a much larger number of participants wanting to supply electricity via distribution. As a consequence, network pricing issues take on greater significance. Under Option 2 the Authority would introduce 1 senior analyst and 1 analyst to undertake some work on distribution network capacity allocation. This involves establishing frameworks within which flexibility services[45], driven by forecasts and price signals, can make decisions about when to supply DER.

The Authority would increase its policy work on connection and capital contribution issues. Issues around lack of metering information are hampering decisions about where to establish connection points (eg, for EVs). Policy work would help ensure distributors are not pushing costs onto connectors, noting that distributors may not face strong incentives to keep capital costs down because capital costs are not subject to the revenue cap for distributors. These effects potentially act as a barrier to the rollout and adoption of EV technology – a concern noted in the Minister's Letter of Expectations. Moreover, reducing the cost of connections helps to keep consumer prices down and increase the uptake of new technologies.

Lastly, the Authority, as a result of having more resources available to it, would be able to undertake more engagement and work with other government agencies on new climate policy and resilience issues (eg, in relation to offshore wind and a renewable energy zone). However, the pace and scope of work would be subject to constraints and there would be some missed opportunities. For example the ability to access learnings from international policy developments, deepen understanding of impacts on energy hardship and engage with a broader range of stakeholders, would still be limited.

Protecting the interests of small electricity customers

A key aspect of the work is the strengthening and enhancing of Consumer Care Guidelines. As noted under Option 1, the Authority has identified two phases of work. Both the first and second phase will be able to be progressed faster and more comprehensively under Option 2.

Once Phase 1 is well underway (post-consultation), the Authority can give further consideration to wide Consumer Care Guideline issues as part of Phase 2; for example, identifying issues that are not currently covered by the Consumer Care Guidelines such as family harm circumstances, measures to protect small business consumers, treatment of customers of tier 2 and tier 3 retailers and the operation of prepay plans. Under Option 2, work on Phase 2 would progress in a more rapid and comprehensive way (compared to Option 1).

[45] DER assets such as batteries, solar panels and electric vehicles (EVs) are referred to as flexibility resources. They can be controlled at very short notice to supply energy and, equally, turned off when that energy is not needed. Flexibility services take the flexibility available from controllable DER and sell it to buyers of flexibility who include distribution networks. Flexibility traders, who buy flexibility services from those who own DER (or who may own DER themselves), seek to maximise the value of DER by allocating them to their highest value use.

Under Option 2, apart from being able to speed up work, to some extent, on the Consumer Care Guidelines, the addition of only one position means that progress with the following initiatives would not be much different to under Option 1:

- Options for future additions to and/or alternatives to Powerswitch (although depending on when additional resources becomes available, options for Powerswitch might be able to be progressed more quickly)
- Understanding retailer alignment with the Consumer Care Guidelines
- Monitoring and understanding developments in other jurisdictions and the potential application in New Zealand.

Operating the electricity system and markets

Under Option 2 an administration support position is added. This will release some of the time of the existing contract managers to increase oversight of System Operator and monitoring of its performance. The need for this is driven by the increasing complexity of the functioning of the electricity system commensurate due to the increasing shift to renewable electricity. Oversight and monitoring of the other major contracts would continue as is.

Enforcing compliance

Under Option 2, the Authority seeks to add three senior advisor positions to the compliance team. This would enable more compliance activity including:

- developing and implementing a risk framework
- undertaking analysis of dispatch instruction non-compliances and gate closure revisions (currently de-prioritised owing to funding/resource constraints)
- taking on additional caseload, including cases where participants are more likely to defend their position as a result of recent and significant increases in penalties
- reviewing the compliance approach to the audit regime (ensuring that audit effort is proportional to underlying risk)
- establishing a clear process and pathway for new entrants to the system and associated guidance, support and advice (aimed at promoting good compliance practices).

Monitoring, informing and educating

The Authority expects the pace of change in electricity markets to increase rather than subside. Assuming this expectation plays out, the demands on the team for robust quantitative analysis will increase. At the same time, there is no reason to expect a reduction in market events – which are also a major driver of the monitoring team’s work. Moreover, there are unmet demands from industry to develop forward looking scenarios and make these available to industry.

Option 2 involves adding a manager and three other staff with modelling capability. The three staff will better enable the demands summarised above to be met. With a new manager position established, the team will be able to engage more effectively externally with industry as well as internally with the policy teams. This means more exposure to policy and industry issues and therefore a better ability to provide insights that are relevant.

Communications and engagement

Communications and engagement is one of the areas the baseline review has highlighted as an area requiring improvement. The Authority agrees with this. For example, it needs to do a better job of explaining and communicating how its various programmes of work link with and contribute to strategic priorities.

The Authority also needs to engage more effectively with stakeholders; which includes, but is not limited to:

- Developing a more mature relationship with the System Operator, MBIE and the Commerce Commission
- Earlier and more frequent engagement with the sector
- Engaging with groups that have a strong focus on the interests of domestic and small business consumers
- Engagement with government agencies on climate and resilience issues.

Option 2 allows some progress to be made in these areas. Under Option 2, a senior advisor and communications advisor are added to the communications and engagement team. The senior advisor would relieve existing pressure on the rest of the team and support projects. Stakeholders want more engagement with the Authority; at best, this additional position helps the wider team to try and keep pace with this, but nothing more than that.

The communications advisor will assist with supporting the wider organisation in its communication of what it does, why and how, in ways that are easier to understand (plain rather than technical language) and in ways that convey a more consistent and cohesive narrative (the voice of the regulator).

Corporate support functions

Legal

The legal team is expanded by 2.5 FTE staff. The need for additional resource reflects:

- current levels of resource are not sufficient to keep pace with the demands that the rest of the organisation is placing on the legal team
- under Option 2, the gap between actual and required resources widens because more is undertaken across other parts of the organisation, including policy and enforcement.

The additional resource enables the legal team to maintain the quality and timeliness of advice in the face of increasing demands from the rest of the organisation. It also takes into account that a higher penalties regime has recently been implemented which is likely to result in some parties being more inclined to defend their position when instances of non-compliance are pursued by the Authority.

Under Option 2, the work of the legal team would continue to be largely reactive rather than proactive toward legal and regulatory changes.

Corporate and market services (CMS)

A project manager position is added within the Corporate and market services (CMS) team. The focus of the manager will be on:

- developing and implementing project management frameworks, as well as documenting policies and procedures, that can be applied consistently across the organisation
- strengthening risk assurance frameworks and processes within the Authority to deliver greater value for money – this is a relatively new part of organisational machinery and there is a need for a significant lift in maturity.

The project manager will support project management across the organisation.

People and capability

A senior advisor is added to the people and capability team. This is primarily driven by overall growth in the size of the organisation and the associated extra demands around recruitment, induction and training. The additional position helps to provide cover for temporary absences in other positions and resilience against key person risks that exist with the current team structure. Under Option 2, there continues to be heavy reliance on third party providers of organisational development and learning and development services.

Data and information management

Under Option 2, two FTE are added to the data and information management team. The additional resources will assist with the development of new content that can be posted on the Authority's website and Electricity Market Information (EMI) website. The EMI website is used to publish data and market performance metrics and to provide analytical tools, which contributes to improving consumer benefit through supporting more effective decision-making within the New Zealand electricity industry.

There is no shortage of data but there are long delays in adding data to databases and issues with being able to access data that the Authority already has. Furthermore, there are dozens of metrics in the wholesale market that could be added to the EMI.

Office of Chief Executive

The Office of the Chief Executive comprises an executive assistant, Board Secretary, and an executive advisor (as well as the Chief Executive), with no change under this option over and above Option 1.

Resourcing

- Additional 25.5 FTE staff

Table 12: Allocation of new FTE across options by business unit: Option 2

	New FTE are denoted incrementally	Current state	Option 1	Option 2	Option 3	Option 4
Business Units	Market Operation Policy + Real Time Pricing	8.4	0	2	2	2
	Wholesale Market Competition	13.4	0	1	2	1
	Future Security & Resilience	6.2	0	1	1	1
	Consumer Care	5.2	0	1	3	5
	Distribution regulatory reform	7.0	0	2	4	3
	Network Pricing	6.0	0	2	3	4
	Legal	8.5	0	2.5	1.5	3
	Compliance	12.5	0	3	3	3
	Monitoring	14.3	0	1	4	4
	Organisational Performance & Delivery	11.7	0	1	3	1
	System Operator oversight / commercial	6.6	0	1	1	1
	People & Capability	8.0	0	2	2	1
	Data & Information Management	10.6	0	2	3	1
	Communications & Engagement	9.6	0	2	3	1
	Office of the CE	4.0	0	0	1	3.5
	New Market Policy Team	0.0	0	2	2	1
	Incremental New FTE	0	0	25.5	38.5	35.5
	Accumulative Total FTE	132.0	132.0	157.5	196.0	231.5

Table 13: Expenditure by core regulatory function: Option 2

(expressed in millions of dollars)	2023/24 total	Option 2 incremental costs	Option 2 2024/25 total
Promote market development	$11.2	$2.9	$14.1
Monitor, inform and educate	$6.1	$1.1	$7.2
Protect the interests of small consumers	$4.1	$0.9	$5.0
Operate the electricity system and markets	$75.8	$8.5	$84.3
Enforce compliance	$3.6	$0.8	$4.4
Total Authority costs	**$100.8**	**$14.2**	**$115.0**

The Authority's expenditure has been attributed to its core regulatory functions, as detailed above. The allocation methodology attributes personnel and external costs directly to the appropriate function where directly linked, but costs which do not have a direct link are treated as overheads, eg office rent costs or support staff costs. Overheads are allocated to our core regulatory functions based on an appropriate underlying measure eg full-time equivalent employees.

Assessment – Option 2

Overall, Option 2 does not rate well in terms of strategic alignment or value for money. This is primarily because the Authority will struggle to keep pace with the regulatory change needed to support the transition to a net zero emissions economy and needed in light of technological changes and market developments (eg, growth in flexibility services).

Option 2 adds about $8.1 million in cost over and above Option 1, but the benefits that stem from being better placed to respond to the demands being placed on the Authority outweigh the additional costs. However, the benefits under Option 2 fall well short of what can be achieved under Options 3 and 4. Accordingly, Option 2 does not represent optimal value for money.

Strategic alignment - preparing for the transition

Option 2 enables the Authority to make a stronger contribution to the achievement of its statutory objectives and strategic ambitions than is possible under Option 1. For example, under Option 2 the Authority would make more progress with, among other initiatives:

- addressing the recommendations in the MDAG report relating to the operation of wholesale markets, which makes up part of the wholesale markets work programme
- accelerating some aspects of the work on future security and resilience
- changing regulatory settings for the distribution sector to unlock the potential of new technologies.

These initiatives are important contributors to helping ensure the competitiveness of markets and security of supply and, importantly, the transition to a net zero emissions economy.

There are, however, some inherent limitations, gaps and risks under Option 2. The Authority would continue to be largely reactive. Issues are regularly brought to the Authority’s attention by the System Operator (eg, changes to the Code) and industry participants. Even though under Option 2 the Authority would be better placed, than under Option 1, to try and keep pace with these, it will continue to be in a situation where it is reacting to issues rather than getting ahead of those issues.

Being highly reactive is not a desirable way of working. Industry participants that are raising issues typically want a fast response. Often, those raising issues also propose solutions. Both factors can place the Authority in a situation where it is taking proposals from industry as the basis for the solution (because this speeds up the response to the presenting issue). There are dangers with this approach. In particular, it risks biasing solutions in ways that favour industry participants but which might not be in the best interests of consumers.

Technology is changing much more quickly than traditionally has been the case. Under the current state, the Authority is struggling to assess the regulatory implications in a timely manner and adjust regulatory settings where needed. Although timeliness improves under Option 2, the risks of being too slow remain. The risk is that the Authority is a handbrake on developments that would otherwise be beneficial for the functioning of markets, security of supply and interests of consumers.

The same point applies to the long list of recommendations for change that are contained within the MDAG report. There are many recommendations to work through, which will inform the wholesale markets work programme. Under current state (Option 1) some of these recommendations simply will not form part of the wholesale markets work programme owing to lack of capacity. Under Option 2, most, if not all, of the relevant recommendations will form part of the wholesale market work programme, but for some of these, there is a significant time lag before they receive attention. That also risks impeding the development of markets. The BCG report will also inform the whole markets work programme development, and similar ability for the relevant recommendations to be picked up in the work programme applies.

In recent times, the Authority has redirected resource to address what had become a long list of Code amendments. Under Option 2, there is more prospect that the Authority will be able to keep pace with future requests for Code changes. However, Option 2 does not provide capacity for a more fundamental review to modernise the Code - something that has been raised in the baseline review.

Under Option 2, the Authority will make some progress with looking into the future and taking the 10-year strategic view that is recommended by Sapere in the baseline review. But capacity and capability to do that will be somewhat constrained. For example, deepening forecasting capability and engaging with overseas regulators (that are experiencing the same challenges) would be useful inputs to being able to formulate a longer-term view but resources for this are not provided for under Option 2 (but are provided for under following options).

The Authority has a relatively new objective of protecting the interests of domestic and small business consumers. The Minister, in her latest LOE, has clearly signalled an expectation that the Authority needs to deliver improved outcomes for this objective, including establishing mandatory minimum standards and monitoring retailers' conduct for vulnerable consumers.

Under Option 2, the Authority proposes some additional resources (and, hence, funding) to address these matters but progress will be limited. For example, the Authority may not be able to address all of the failings that consumer advocacy groups perceive with the current electricity system. As a result, these groups may take the view that the Authority is not giving sufficient focus to the interests of consumers. They may perceive their expectations are not being met and that the Authority is falling short on this aspect of the Authority's statutory objectives. Potentially, this could serve to undermine confidence in the regulator.

Engagement and strengthening relationships are two of the areas that the baseline review has recommended for improvement. The Authority agrees, but this is resource intensive. Option 2 provides a minimum uplift in communications and engagement capability but this is unlikely to align well with stakeholder expectations of engagement that is sooner, more often and more meaningful.

An enduring expectation of government agencies is that they honour the principles of Te Tiriti o Waitangi. Other regulators have made good progress in embedding Te Ao Māori into their work and into their regulatory frameworks and strategies. The Authority lags behind to a significant degree and Option 2 does not provide sufficient capacity or capability to make much progress toward embedding Te Ao Māori in its work or materially shifting the level of, and approach to, engagement with Māori.

In terms of ways of working, the Authority will continue to place considerable reliance on external experts, particularly for its policy work to support the regulation of wholesale and distribution markets. Building internal capability takes resources to achieve; it is not as simple as just hiring new recruits. Option 2 does not provide the resources that are needed to make much progress in reducing reliance on external advisers.

In summary, Option 2 starts the Authority down the path toward a much stronger contribution to statutory objectives and strategic ambitions but it does not take the Authority as far as desired or at the pace needed.

Economic alignment - value for money

The Authority is confident that Option 2 will deliver benefits in excess of costs but that is not the same as achieving value for money. Value for money requires optimising the balance between benefits, costs and risks. Option 2 is relatively short on benefits compared to Options 3 and 4. Moreover, under Option 2 there are aspects of regulatory reform that are not progressed at sufficient pace (eg, the MDAG recommendations and reforming regulatory settings for distribution networks) which means there continue to be risks to the orderly transition toward a net zero emissions economy (albeit somewhat mitigated compared to Option 1). Option 2 does not facilitate the same ability to reduce external consultant spend as in Options 3 and 4, which presents a possible missed opportunity to maximise value for money by building internal capability, carrying out less reactive work, and having bandwidth to respond to the inevitable unexpected.

Reflecting these points, Option 2 does not reflect value for money. Options 3 and 4 are better in this regard.

Commercial alignment - supplier capacity and capability

Option 2 does not carry much implication for the work plans of the System Operator and the other external providers that provide a range of services supporting the operation of the electricity system and electricity markets. By implication supplier capacity and capability is not seen as being a constraint to the implementation of Option 2.

Financial alignment - affordability

The cost of Option 2 is circa $8.1 million per annum over and above Option 1. It is unlikely that this relatively large increase will have much, if any, impact in terms of affordability from the perspective of levy payers notwithstanding the above average rate of inflation occurring in New Zealand currently.

In any event an increase in the levy is only one side of the equation. The other side is the benefits that come from the additional activity that is funded by the levy increase. The advantages under Option 2 (compared to Option 1) in terms of better supporting the transition and the functioning of the electricity system and markets are likely to confer benefits on consumers (who ultimately contribute to the levy) that far outweigh the cost of an increase in the levy (eg, benefits in the form of prices that would be lower under Option 2 than they would be under Option 1).

Management alignment - achievability

Option 2 involves adding 25.5 FTE staff over and above Option 1. Although this is a reasonable step in personnel numbers, the Authority is confident that the change can be successfully managed.

The Authority already has plans and actions to support recruitment and onboarding of significant numbers of staff. The Authority's recruitment platform allows it to manage multiple positions simultaneously and provide the support needed for hiring managers. The platform includes capability to automate on-boarding processes should recruitment numbers swell.

The capabilities required by the Authority are quite specialised for many of the positions, and labour markets are still relatively tight. Nevertheless, the Authority is confident in the network of agencies it has established relationships with and the strong employee value proposition it can offer to prospective recruits.

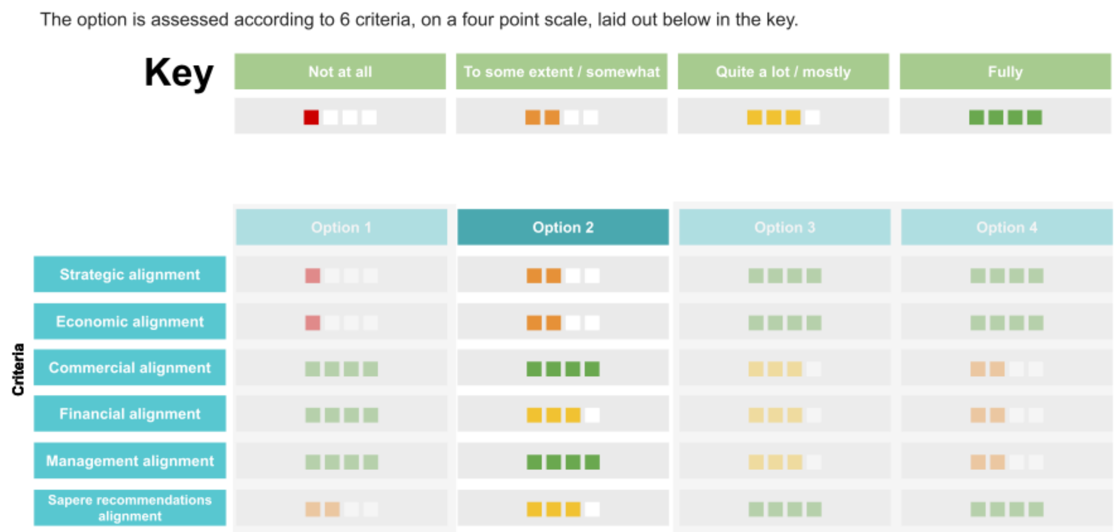
In short, the ability to recruit the additional positions is not seen as being a major risk to being able to implement Option 2.

Sapere baseline review recommendations

Under Option 2, the Authority will generally make progress with all of the recommendations contained in the baseline review albeit at varying rates (eg, with respect to strengthening relationships with stakeholders as some will get a bit more priority than others) and with one or two exceptions the most notable being that Option 2 will not involve fundamental review and modernisation of the Code (as recommended by Sapere).

Assessment table

Table 14: Options assessment: Option 2



Option 3 – Enabling a consumer-focused transition

Overview – key points

Option 3 builds on Option 2 and enables the Authority to catch up and increase activities and capability necessary to prepare the Authority to respond to the generational step change on the sector's horizon. This involves an uplift in activities and associated FTE that will help the Authority be more forward looking, proactive, and keep up with the sector to deliver regulation that is fit for purpose.

This option is focused on providing more forward focused, proactive advice to senior leadership and the Minister, and starts to consider work that will target opportunities before they potentially evolve into issues with large impacts. This involves an increase in core business and supporting functions, across areas including policy projects, compliance enforcement and contract management.

Under Option 3, the Authority takes a more strategic approach to its work. This would mean the Authority identifies areas for work itself, rather than having priorities determined by others. This approach is proactive rather than reactive, forward looking (~10 year view as suggested by Sapere), and taking more of a regulatory stewardship role – thinking about how the system as a whole is functioning rather than just being driven by, and focused on, specific issues and events. This option facilitates looking ahead to anticipate issues and stay abreast of, or ahead of, developments in the system and markets. Second, it builds more resilience to deal with the unforeseen events when they do occur without unduly compromising business-as-usual activity. Deferred maintenance has been the status quo of the Authority for too long, and work that has immediate benefits has been prioritised due to limited resource. When taken chronically, this approach is problematic and creates a backlog of work to address medium-long term needs. Under Option 3, work that has been previously deprioritised can be completed, as well as more long term and strategic work, positioning the Authority in a far stronger position of preparedness and proactiveness to facilitate the transition to a net zero emissions economy by 2050 for the long-term benefit of consumers.

The sector faces an incoming 'generational step change'; the electrification of the economy and the increase of renewable electricity sources, and the transition to a net zero emissions economy by 2050. These large changes have implications that span the sector, which will require a significant response; updates to the Code, increased investment needs, technology development and adoption, regulation of pricing behaviours and ultimately, ensuring reliability across the grid. Many variables need to align to achieve an equitable and lower cost transition. With many varying lead times to consider, at the outset, this transition lends itself to a complex work programme that will challenge the capacity and capability of current resource levels. The Authority would be at a disadvantage to enter this era of change without significant preparation; currently still functioning in a highly reactionary way of working with resource levels stretched across the organisation. The high degree of change involved in the transition reveals an opportunity to address concerns and risks that are present, or exacerbate them.

Under Option 3, the Authority can align activities to prepare for a smooth and just transition. The desired transition will:

- be efficient and enabled by innovation
- improve industry trust and confidence in the Authority (reputation)
- be supported by regulation that is fit for purpose and keeps up with innovation
- be in the best interests of consumers - transition occurs at lower cost to consumers.

Description – Option 3

Promoting market development

Under Option 3, new initiatives are added to the work programme and existing initiatives can be progressed at an accelerated rate. Additional work will no doubt be identified as the Authority works to stay aligned with the increasing complexity and dynamics of the evolving market, and this option affords enough capacity to flex to meet ad hoc requests without diverting resource from business as usual activity.

Future security and resilience

The Future security and resilience (FSR) work programme continues to be a high priority for the Authority. There are lots of opportunities within this area to fund activities that will help manage an orderly transition that realises the benefits of technology and lowers costs for consumers, and extra funding enables more instances to maximise these opportunities. Under Option 3, a senior analyst position is added to the FSR team (along with provision for obtaining additional external expert advice) to accelerate activities in the existing work programme including, in particular:

- projects that are focused on leveraging new technology to enhance ancillary services. This will involve updating the Code and investigating new ancillary services and platforms to maintain frequency, voltage and power system security
- work on enabling DER services and improving visibility and "observability" of DER. This will involve changes to the Code and work on wholesale market dispatch capability to accommodate willing and required DER participants to supply. More work will be done to better understand the impacts of DER on the system and on security of supply. Code changes will include making clear the obligations and operational requirements applying to DER. Procedures and tools will also be updated to provide better DER asset information to support overall system operability and, ultimately, support security of supply.

Wholesale markets

An analyst and a senior analyst are added to the wholesale markets team to help progress the whole markets work programme at a faster rate. The increase in resourcing will enable to Authority to deliver a more ambitious wholesale market work programme, including implementing further MDAG recommendations.

Two additional positions are established in the markets operational policy team (which includes the Real Time Pricing (RTP) project). The additional resource enables:

- building knowledge of international context and developments and, hence, richer insights for development of wholesale markets policy
- a forward view of system security settings needs and development
- greater ability to respond to significant system events with reduced impact on existing work programmes (more internal resilience)
- a better ability to be ahead of potential issues and their impacts and provide more forward focused, proactive advice (including to Ministers)
- reduced reliance on external consultants (and, hence, stronger ability to build and retain in-house intellectual property).

With respect to the RTP project, the additional resource enables:

- monitoring and expansion of the dispatch notification participation regime to ensure flexibility service offerings can realise the full value of their investment. Australia's Project Edge (a DER coordination platform) is an example of the work that will need to be done

- support the integration of solar and wind generation and managing the associated risks created by their intermittency
- investigation into the transition to sub-30 minute pricing to further realise, incentivise and bring forward the benefits of demand response and DER.

Two additional positions are added to the new market policy team established under Option 2. This would enable the Authority to initiate and complete substantive reviews to the industry's operational processes and supporting Code in a more timely way. At this stage it is not sensible to determine which Code amendments would take precedence as some work would first need to be done to prioritise, however the list of potential reviews includes:

- review of the stress testing regime
- review of the use of reconciliation profiles
- expanding the electricity registry include more information on distributed energy resources and flexibility services
- permitting different traders for consumption and export (multiple traders)
- review of notifications for unplanned outages
- updating of statistical sampling processes for certification and inspection of metering.

Distribution

Regulatory settings

Four additional positions are established to work on reforming distribution regulatory settings. This will enable:

- a significant ramp-up in regulatory activity. More projects can be undertaken and progressed much faster. Reform of regulatory settings becomes transformative rather than incremental in nature.
- support for trials or "learning by doing" and making this approach a more regular and commonplace way of working
- strategic positioning (consistent with the shift to being more proactive and less reactive)
- research into international jurisdictions to better understand and learn from developments overseas.

Network pricing

Over $20 billion of distribution-related investment is projected in each of the next three decades. This contributes to the need to reform distribution prices to help direct users toward lowest-cost usage and investment choices.

Under Option 3, three positions are added to network pricing, and provision is also made for more use of external experts. The additional resource will be directed towards:

- accelerating policy work on distribution pricing and distributed generation
- expanding work on understanding the impacts on energy hardship
- increasing understanding of international policy developments
- improving engagement with a broader range of stakeholders
- improving our engagement with distributors to facilitate knowledge-sharing across industry.

Code amendments

When left unaddressed, short term risks can develop into larger risks, with bigger consequences, requiring them to be addressed in the FSR workstream. Option 3 includes proactively rewriting sections of the Code, to reduce instances of this occurring. This will diminish inefficiency of duplicated effort spent through temporary solutions. If more problems can be solved at the outset, consumers will experience fewer negative impacts and/or events.

Protecting the interests of small electricity customers

An additional 3 FTE staff would be recruited over and above Option 2. Changes under Option 3 compared to Option 2 are as follows:

- Fuller consideration of the more complex proposals emerging from the Consumer Care Guidelines Phase 1 consultation. Under other options, these would need to be deferred because of limited resources.
- Consumer Care Guidelines Phase 2 is progressed in a thorough and comprehensive manner, alongside Phase 1. Phase 2 is intended to draw on observations relayed by consumer advocacy groups about key failings they perceive with the current electricity system, and may include (but is not limited to) family harm circumstances, small businesses, compliance of tier 2 and tier 3 retailers and operation of prepaid plans.
- A more comprehensive approach to developing options for future additions to and/or alternatives to Powerswitch, including wider examination of international options
- More data analysis to examine specific issues for small consumers and improve the evidential basis for addressing them.

Operating the electricity system and markets

Option 3 enables the System Operator oversight team (within the Commercial team) to keep pace with demands with one additional FTE, and start to become more proactive in their approach.

With respect to System Operator:

- The Authority will renegotiate the System Operator Service Provider Agreement (SOSPA) with more available resource to manage the contracts. This is not as highly prioritised under either Option 1 or Option 2
- There will be more active management of the existing, and renegotiated, SOSPA, to ensure that the services are being properly provided. More generally, there will be increased focus on strengthening the relationship with System Operator (consistent with the baseline review recommendation)
- Further to the previous point, the Authority will be able to contribute advice and analysis towards the day-to-day management of the electricity system by the System Operator, to improve the security of supply and lower the average costs of operation. These are cost savings that are ultimately passed on to consumers. As demand-side participation increases, a particular focus will be on ensuring that demand-side levers are fully utilised.

Option 3 is the first of the options to provide adequate resources to scrutinise the System Operator’s performance, ensure incentives drive the right outcomes and facilitate strong governance. Although the additional resource will be directed to the System Operator contract, the larger team means more attention can be given to the other third party service provider contracts as needed.

Enforcing compliance

Option 3 supports the Authority to be a more visible regulator. Three new positions are established (over and above Option 2) to increase and strengthen compliance activity. The additional resources include two team leaders plus a compliance technician (junior/graduate level role). This:

- enables the Authority to undertake more and faster investigations which, in turn is likely to reveal more instances of non-compliance and, hence, need for enforcement
- means the Authority will have more capacity and, hence, resilience to manage increases in compliance case load
- gives greater focus to education aimed at promoting the right behaviours
- provides more capacity and, hence, resilience to adapt to changing work demands including, for example, when a significant event arises, without major disruption to business-as-usual activity
- provides capacity to stand back and re-evaluate current ways of working with the aim of realising opportunities to become more efficient and effective. In this regard, the additional resource would:
    - enable the Authority to design and implement standard operating procedures for the compliance team
    - facilitate some organisational redesign (including the appointment of team leader positions) to improve workflow management, implement more effective line of sight management accountabilities
    - develop areas of specialisation (eg, Code sections, metering, reconciliation, audits and so on)
    - strengthen regulatory feedback to the policy team and make more effective contributions to policy development.

Monitoring, informing and educating

Option 3 involves a significant step up in the capacity of the monitoring team and the monitoring role played by the Authority. Under Option 3, four additional positions are established and the current monitoring team is split into two teams. The additional resource enables the monitoring function to be much more forward looking. The pace of change in electricity markets means that the Authority has to anticipate the sector’s needs to ensure that the regulatory framework remains current.

The shift to a forward stance will be supported by:

- recruiting people with modelling skills
- building and publishing open-source models for the sector
- linking and learning from international developments
- enabling better access to existing and new data
- integrating more with policy teams

The additional resource and team restructuring also means an increase in the availability of senior people to lead investigations as well as more resilience to address events when they arise.

Strengthening the integration of monitoring with policy will provide a more robust empirical basis for regulatory change. Under Option 3, the Authority will be able to better fund research into consumers’ lived experience of the electricity system and use these consumer perspectives to inform regulatory changes. The ability to analyse consumer and hardship data will allow the Authority to be able to lead consumer conversations, get ahead of the market on identifying and solving issues.

Education is referred to in a broad sense. It involves using the monitoring function and data available to both educate consumers about how to get the best power deal and educate them on the Authority's regulatory role to build confidence in the regulatory system.

Option 3 would enable a solid evidential basis for policy, and is a practicable next step in many areas of the Authority's work, particularly to deliver against their obligations to consumers. There is an opportunity to increase maturity in regard to data hygiene, or else issues will be exaggerated when the Authority obtains access to richer data (and does not have the capacity or capability to utilise it), such as from residential smart meters. Being able to access this type of data and make it more readily available to distributors will provide much more visibility in the low-voltage network.

Communications and engagement

Under Option 3, three positions are added over and above Option 2 in the Communications and engagement team; 2 additional principal advisors and 1 senior advisor. Compared to Option 1, this is a significant step up in the resources for this function. The additional resource enables:

- better ability to manage the increased workload of the team which in part is driven by growth in work of other teams
- communication of all of the Authority's work and its impact in plain language, to build understanding and trust in the system
- support for principal analysts to lead strategic narrative
- more frequent and deeper engagement
- more consumer education initiatives (eg, more digital collateral)
- greater focus on 'harder to reach' customers, including domestic and small business consumers
- Māori engagement, including support to initiate and measure impact
- upskilling of staff to meet increased engagement needs
- more support across the greater number of projects the Authority is able to progress more than under Option 2
- support for, and communication of, an initial response to energy hardship recommendations
- more frequent and deeper engagement to change behaviours and look after consumer interests
- strengthening of relationships with other regulators to share and leverage experience and avoid regulatory fatigue for key mutual stakeholders
- increase in internal communications to ensure an effective flow of information between staff, and keep staff engaged with the Authority's vision and strategy
- support for more speaking opportunities to build the Authority's profile and increase its influence.

Option 3 also enables inter-agency collaboration by being more joined up with a range of government agencies. This will help to progress outcomes by unlocking efficiencies across work that spans agency mandates and expertise. Examples of opportunities which the Authority has had to decline or postpone due to unavailable resource include working with the Ministry of Social Development on the Winter Energy Payments, working with the Ministry of Housing and Urban Development around using energy information as a proxy to measure vacancy rate of houses, and with Kāinga Ora on renewable energy compatible transitional housing. There is also a DPMC consultation paper on resilience, alliance company + distribution, which the Authority may not have capacity to contribute towards.

Corporate support functions

Legal

The nature and scope of legal services and support under Option 3 is essentially no different to Option 2 other than allowing for a small increase in resource of 1.5 FTE to match growth in activity across the rest of the organisation.

Corporate and market services (CMS)

The business partnering model, under which CMS staff work alongside other business units to support their work, will be strengthened under Option 3 with 3 additional FTE (additional finance and project management resource). The aim is to develop a strategic perspective to business partnering. Currently capability is over-stretched and this will only get worse if the rest of the organisation grows in size. The strengthening of business partnering will include system and management accounting support.

Project management capability will also be strengthened to complement the existing capacity that sits within this team but is shared across the organisation. The need to strengthen project management was identified in the baseline review and with further growth in the organisation, and more projects, demand for project management support will increase. The additional resource will help bring more discipline around process, reporting and project management.

With the significant increase in FTE staff across the organisation associated with Option 3, the Authority will need to consider leasing additional building space.

People and capability

Under Option 3, an organisational development specialist position and another payroll advisor position is established.

Currently, the Authority relies on external advisers for organisational development advice. Option 3 involves a significant uplift in overall personnel numbers. The significant growth in the organisation will intensify the need to consider whether the Authority's operating model and structure remains fit for purpose. Although there might still be a role for external advisers in this respect, the Authority considers that having its own in-house capability becomes a priority. This will also assist with making further progress with health and safety and wellbeing initiatives.

The establishment of a second payroll advisor position is essentially driven by the need to reduce key person risk and the growth in overall personnel numbers (more people generally means more payroll issues to deal with).

Data and information management

With the proposed increase in monitoring activity, there needs to be increased support from the data and information management team. The main need is for more data that is in better condition so that it can be turned into information and insights that contributes to better decision-making and better outcomes for consumers. 3 additional FTE with development capability are added to the data and information management team to enable this under Option 3.

With greater engagement comes the responsibility to hold a greater volume of sensitive stakeholder information. For this reason, and general data hygiene, the Authority needs to employ a comprehensive data strategy refresh, including cyber security, and consider ways of working with other government agencies (eg, StatsNZ - IDI).

Also included in OPD is an uplift in IT capability. This will reduce the Authority's reliance on external resources by building a body of internal IT knowledge. Through this addition, the Authority would be able to meaningfully access upgrade proposals for suppliers (in terms of technical approach, value and risk), and assist with Authority-led system changes. This is important, given how much software is involved in the electricity market system and prior cyber security challenges.

Office of Chief Executive (OCE)

Option 3 involves adding another position to the Office of Chief Executive and increasing the budget for expenses.

The driver behind increasing the size of the OCE is the need to lift Te Ao Māori capability and maturity. The Authority is behind the level of competency expected as part of the All of Government requirement and enduring expectation for giving effect to Te Tiriti o Waitangi obligations.

Under Option 3, the Authority aims to start lifting its capability and maturity, recognising that it has a long way to go. The capability and maturity that is needed will have implications pan-organisation but there are benefits in having the OCE to help drive and oversee the development of Te Ao Māori capability. Being seen to drive this “from the top” is a critical success factor.

In terms of OCE expenditure, Board activity will likely also increase; for example, more decisions to be taken as well as, potentially, taking an active role as part of lifting the Authority's level of engagement with stakeholders. Accordingly, more budget will be set aside for travel accommodation and expenses associated with the Board.

Accommodation

With growth in the number of FTE kaimahi, the Authority will need to lease further office space equivalent to its current leased space. The cost of this extra office space has been included within the cost calculations for this option.

Phasing of costs

There are a reasonable number of new kaimahi to be recruited under Option 3 compared to our current complement, and recruitment and on-boarding of the new kaimahi will take several months to complete. Our calculations show there will be some savings in remuneration costs arising from the phased recruitment but these savings will be offset by one-off transitional costs associated with recruitment and on-boarding the new kaimahi.

Resourcing

In total, Option 3 involves an additional 38.5 FTE staff over and above Option 2 (or an extra 64 FTE staff compared to the current state). The distribution of the additional staff across the Authority's business units is shown in the following table.

Table 15: Allocation of new FTE across options by business unit: Option 3

New FTE are denoted incrementally	Current state	Option 1	Option 2	Option 3	Option 4
Market Operation Policy + Real Time Pricing	8.4	0	2	2	2
Wholesale Market Competition	13.4	0	1	2	1
Future Security & Resilience	6.2	0	1	1	1
Consumer Care	5.2	0	1	3	5
Distribution regulatory reform	7.0	0	2	4	3
Network Pricing	6.0	0	2	3	4
Legal	8.5	0	2.5	1.5	3
Compliance	12.5	0	3	3	3
Monitoring	14.3	0	1	4	4
Organisational Performance & Delivery	11.7	0	1	3	1
System Operator oversight / commercial	6.6	0	1	1	1
People & Capability	8.0	0	2	2	1
Data & Information Management	10.6	0	2	3	1
Communications & Engagement	9.6	0	2	3	1
Office of the CE	4.0	0	0	1	3.5
New Market Policy Team	0.0	0	2	2	1
Incremental New FTE	0	0	25.5	38.5	35.5
Accumulative Total FTE	132.0	132.0	157.5	196.0	231.5

Business Units

Table 16: Expenditure by core regulatory function: Option 3

(expressed in millions of dollars)	2023/24 total	Option 3 incremental costs	Option 3 2024/25 total
Promote market development	$11.2	$6.8	$18.0
Monitor, inform and educate	$6.1	$3.3	$9.4
Protect the interests of small consumers	$4.1	$2.7	$6.8
Operate the electricity system and market:	$75.8	$9.2	$85.0
Enforce compliance	$3.6	$2.1	$5.7
Total Authority costs	**$100.8**	**$24.1**	**$124.9**

The Authority's expenditure has been attributed to its core regulatory functions, as detailed above. The allocation methodology attributes personnel and external costs directly to the appropriate function where directly linked, but costs which do not have a direct link are treated as overheads, eg office rent costs or support staff costs. Overheads are allocated to our core regulatory functions based on an appropriate underlying measure eg full-time equivalent employees.

Assessment – Option 3

Option 3 is viewed as the recommended option, due to its strategic alignment and value for money. There is considerable expansion of teams' work programmes, and an associated increase in FTE, which will rely on management for recruitment, including possible phasing of onboarding.

Strategic alignment - preparing for the transition

Option 3 will allow the Authority to be more effective, catch up on a backlog of previously deprioritised projects, as well as identify and complete new projects that will help achieve the Authority's strategic ambitions through the transition.

While Option 3 helps the Authority enable the transition, Option 4 is distinct in that it helps the Authority to *lead* the transition. A level of risk is maintained in which Option 3 activities might still result in an inefficient transition and a higher cost to consumers, which is further mitigated under Option 4.

By adding the right capability and capacity across the organisation, Option 3 enables the Authority to mitigate a large amount of risk, by tackling both low-hanging fruit as well as some larger, more resource intensive challenges. It enables the Authority to:

- Increase the organisation's resilience and ability to handle the unexpected without significant disruption to business as usual, which reduces regulatory failure and upholds the reputation of the Authority as being able to deliver outcomes to the sector
- Increase the compliance function to enable more timely investigations and deliver education activities
- Continue to prioritise the Future Security and Resilience work programme, in the lead up to the transition
- Expand research activity (including into international precedents) so that issues are proactively identified by the Authority, rather than brought to attention by industry. This allows the Authority to lead conversations in the market and reduces susceptibility of pressure to choose solutions that benefit industry over consumers
- Provide regulation that is fit for purpose. Making medium sized changes to the Code mitigates a large amount of risk - operating with an out of date Code gives rise to a suite of issues that will be a hindrance (and costly) in the future eg, exemptions for multiple trading relationships
- Reduces the Authority's need for external consultants as it allows: (1) building of internal capability (2) be ahead and less reactive of issues (3) have the ability to respond to the unexpected.

Option 3 enables the Authority to better prepare for the transition in a way that will more successfully delivers on its strategic objectives. The statutory obligations imply the Authority's role is to facilitate the transition because it is required to promote a market environment that is competitive, efficient and produces reliable supply, as the environment changes. In the lead up to 2030, it is critical to harness the momentum and maintain the constituency for the transition. A catch up in resourcing as found in Option 3 is key to harnessing this, and there is a key opportunity to mitigate the risk of momentum dissipating. Option 3 provides the resource uplift that can onboard the necessary capability and capacity to set the organisation, and sector, up for success.

With respect to the Authority's strategic ambitions, the level of resource assigned to the Authority will enable a shift towards a more strategic approach, ensuring the right work is effectively prioritised in order to realise benefits in the short, medium and long term, and gives effect to the five strategic ambitions.

- ***Consumer centricity to guide regulation and the industry*** - stronger and more frequent engagement produces enhanced credibility with all stakeholders, and gives effect to consumer centricity.
- ***Low-emissions energy to electrify the economy*** - the future security and resilience work continues to be a priority, and prepares the sector for the transition to net zero by 2050.

- ***Build trust and confidence in the industry for all stakeholders*** - an increased focus on stakeholders helps the Authority run an engagement process with industry and develop (and monitor) solutions that work in practicality.
- ***See thriving competition delivering better outcomes for New Zealanders*** - and advocate for the best outcomes for consumers, ie, transition at the lowest cost to consumers, facilitated by healthy market competition.
- ***See innovation flourishing*** - an increased focus on investment decreases the risks of missed opportunities and not enough supply for New Zealanders. It also accelerates innovation, which is one of the strategic ambitions.

With respect to enduring government expectations:

- Increased maturity in compliance will set up practices for good hygiene for fulfilling foundation expectations of good public service organisations. It is important to have a standardised process across the organisation, especially when entering a period of significant transition, and with the organisation growing in size.
- Upskilling in Te Ao Māori helps build capability to give effect to enduring Te Tiriti obligations.

Increases in maturity within these two areas will reduce exposure to risk, both with regards to security, reputation, and maintaining stakeholder confidence.

Economic alignment - value for money

Compared to the previous options, Option 3 delivers significant benefits. The additional work that the Authority is able to undertake under Option 3 means much greater likelihood of fully realising benefits in a number of areas. For example, it would be likely to fully realise the $6.9 billion in benefits that Sapere have estimated could be achieved from 2021 to 2050 if DER were to realise their full potential and the up to $19 million in benefits stemming from Real Time Pricing.

With respect to distribution, there is a large amount of forecast network investments with $20 billion in each of the next three decades is projected. If the work of the Authority leads to even small improvements in the efficiency of this investment, the benefits will be large. More access to information and the ability to share it with the network will help promote competition (which leads to lower cost options) and better decisions between options, leaving consumers better off.

There are efficiency gains to be had with respect to timeliness and correct prioritisation of work, considering both short, medium and long term benefits. This is largely in regard to adding larger projects to the work programme, which will reduce the need for reactive and urgent fixes down the line.

More project management and administrative personnel across the organisation will help free up capacity of those holding specialised capability, enabling them to apply their skill sets on work in their niche rather than on administrative tasks.

Option 3 develops in-house capability in many areas such as payroll, project management, research and IT, reducing external spend required to fill capacity and capability gaps, ultimately providing the Authority with better value for money. In particular, IT capability improvement will bolster the ability to enable system-wide technology improvements. This will increase efficiency, provide better value for money, and deliver services at a lower cost-benefit which can be passed on to consumers. Working with other agencies will ideally be mutually beneficial and reduce duplication of work across industries, and provide easy access to relevant expertise.

In other, and more technical areas of the Authority's work, reducing the reliance on external consultants will help with building internal capability (and institutional knowledge) and better enable the Authority to respond to the unexpected. It also means the Authority will be more proactive, and less reactive to issues.

Commercial alignment - supplier capacity and capability

Under Option 3 the Authority expands, and introduces changes, more quickly than the previous options. The Authority has considered whether this might pose challenges in terms of the capacity and capability of service providers to keep pace with the changes that the Authority wants to bring about.

Further commentary on this issue is provided in the Commercial Case below. In short, the availability of specialist expertise might be an issue for service providers (just as it is for the Authority). However, provided the risks and challenges are planned for, monitored and managed, the Authority considers that supplier capacity and capability will not be a major road block to implementing the changes under Option 3. The Authority notes that many of the changes under Option 3 stem from things that the providers want to see change and, under the current state, it is the lack of resources within the Authority, rather than the service providers, that is acting as a hand brake.

Financial alignment - affordability

The cost of Option 3 is circa $9.5 million per annum over and above Option 2. This will require an increase in levies to support additional activities, however there are considerable financial advantages of this option towards producing a more efficient and competitive market environment, which will ultimately benefit consumers. Therefore, the benefits are expected to far outweigh the cost of an increase in the levy, and this option is considered to have considerable financial alignment.

Management alignment - achievability

Under Option 3, there is a significant increase of 64 FTE above current staff levels. The Authority acknowledges that this is a substantial uplift in personnel numbers and, reflecting this, there will be risks and challenges that need to be managed.

The Authority is, however, confident that the risks and challenges can be managed. This is discussed further in the Management Case but, in short, the Authority considers that its recruitment and change management capabilities are up to the task reflecting:

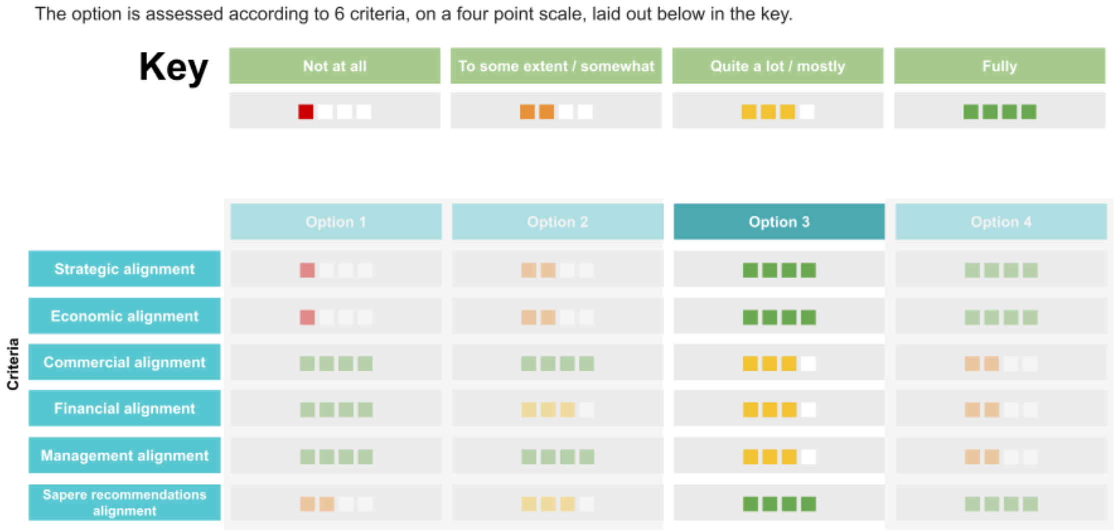
- a recruitment platform that has the ability to scale up to deal with significant numbers of new recruits
- multiple active linkages into potential labour markets (and sourcing agents)
- a strong employee value proposition.

Alignment with Sapere report recommendations

Option 3 will enable the Authority to respond to all of the recommendations in the Sapere report, in a timely manner. In particular, this option gives effect to Sapere's recommendation to be more future focused. Under this option, ways of working evolve from reactive to proactive. Prioritisation of activities can be more forward looking and less focused on immediate benefits, instead better focusing on achieving long-term optimal solutions for consumers. Increased engagement with industry participants as well as consumers and small businesses means that the Authority will be able to better understand their needs, tailor initiatives to meet the needs of harder to reach consumers, and develop solutions alongside stakeholders. This will increase the ability to facilitate a just and orderly transition.

Assessment table

Table 17: Options assessment: Option 3



Option 4 - Leading a consumer-focused transition

Overview – key points

Option 4 is a significant step change in how the Authority approaches its work. Under this option, the Authority is:

- a leader, rather than enabler, of the transition
- strongly future focused
- a much more proactive regulator – getting ahead of issues and providing timely advice on potential solutions
- a system steward – monitoring and assessing the "health" of the regulatory system; much more proactive engagement with other regulators and other organisations that have roles to play in the functioning of the electricity system and markets and protecting the interests of consumers
- future proofed - much better placed to absorb and address growth in demand on the organisation as the transition progresses. Better placed to engage in medium/longer-term strategy and planning given greater funding certainty. Unless something major and unexpected occurs, the Authority is unlikely to have a need to seek additional funding over the medium term (eg, four years) which, in turn, helps to provide levy payers with greater degree of certainty around their funding obligations
- highly resilient - more capacity to address unplanned issues without undue disruption to business-as-usual activity.

Description – Option 4

Promoting Market Development

The key shifts under Option 4 compared to Option 3 include:

- more research, including greater focus on what's happening overseas – drawing on international precedents and learnings
- leading sector views of system operations and security policy – thought leadership on generation requirements needed to support the transition to a net zero emissions economy
- building relationships to better position the Authority and other agencies to be more efficient in emergency response situations
- driving the work programme with the System Operator, rather than just reacting to the issues raised by System Operator
- more and faster progress with addressing a range of network pricing issues and reforming distribution regulatory settings.

Future security and resilience

Compared to Option 3, the Authority would be able to bring on an additional policy analyst to accelerate further work on leveraging new technology to enhance ancillary services. The additional resource under Option 4 would enable the Authority to start work on three areas that relate to system security and resilience. Work in these areas stems from the fact that the Code is based on the system as it existed in 2010. Code changes are required to enable the effects of new technologies and bi-directional power flow.

- Operating with low system strength (ie, the ability to maintain correct voltage waveforms which, traditionally, has come from power supplied by hydro, coal and gas generation). Work would start to define a baseline for system strength and performance criteria to complement relevant parts of the Code and may involve amendments to the Code to support system strength. Work would also include developing suitable market products to dispatch system strength to meet any shortfalls and, hence, reduce the chances of system strength falling below defined performance levels.

- Balancing new generation. Work would focus on ensuring the obligations the Code places on the formulation of intermittent generation offers (into the market) help to produce the best quality offers. Work would also be undertaken to ensure System Operator's demand forecasts are sufficiently accurate (as this is important for decision making by generators). The Authority would also work with the System Operator to review and test operational procedures to ensure they are fit-for-purpose in a system with increased reliance on variable renewable generation.
- Managing reducing system inertia. Inertia (ie, energy stored in large rotating generators that can be called upon instantaneously when there is a large power plant failure) is a key source of system (grid) reliability. Wind and solar generation do not provide inertia. Work in this area would focus on ensuring that the Code and market system can accommodate new reserve types and addressing the need for any consequential changes to the System Operator's operational procedures and tools.

Wholesale markets

The additional funding and capacity afforded under Option 4 would enable the Authority to introduce a principal analyst and commission policy work to assess the likelihood of events/developments that will impact the sector and require changes in regulatory settings, particularly in relation to infrastructure. Examples include the:

- construction, operation, and decommissioning of offshore wind infrastructure
- NZ battery project which is focused on innovative solutions such as pumped hydro, biomass, flexible geothermal energy and hydrogen to the "dry year" challenge.

Under Option 4, the Authority is better positioned to anticipate and plan for the need for amendments to the Code. Moreover, it is better placed to undertake a comprehensive review and modernisation of the Code; something which is raised in the baseline review.

Distribution

Regulatory settings

Reforming distribution regulatory settings would progress at a faster pace than is possible under any of the preceding options. Moreover, the addition of three senior analyst positions under Option 4 would enable the Authority to further embed changes (building on Option 3) to its approach to regulatory reform with much greater emphasis given to trials/pilots that enable a greater number of innovative solutions/changes to be tested at pace (ie, a much more agile way of working). Reforming distribution regulatory settings involves a significant number of projects and industry has high expectations in terms of the Authority's progress working through these. Option 4, more so than any of the other options, best enables the Authority to meet industry's expectations and gives the greatest chance of ensuring that the $6.9b benefit identified by Sapere, most of which ultimately accrues to consumers, is realised.

Network pricing

The additional resource of 1 principal analyst, 2 senior analysts, and an analyst under Option 4 will enable a range of network pricing issues to be addressed over and above what can be undertaken under Option 3:

- Investigating options for strengthening incentives to reduce line losses (currently paid for by retailers who are not well placed to control losses)
- Reviewing grid reliability standards (which have not been reviewed in 10 years)
- Undertaking reviews of distributor asset management plans to reduce chances of major lines infrastructure failures
- Undertaking scoping to assess the need for work around the implications of declining networks revenue (eg, smaller networks losing major customers)
- Reviewing discounts provided to customers who are also “owners” of consumer trust-owned electricity distribution businesses as a check as to whether this is distorting price signals in unwanted ways
- Responding to any transmission pricing methodology proposals submitted by Transpower (the likelihood of proposals increases as time passes)
- Expanding the guidance notes for distributors on how to pass through transmission charges. Distributors pass through Transpower’s charges to retailers and ultimately electricity customers. Stakeholders have indicated to the Authority that they are looking for more guidance in this area (eg, on signalling future investment and impact on charges).

Protecting the interests of small electricity customers

Options 1, 2 and 3 progressively allow for a faster and more comprehensive approach to the development of the Consumer Care Guidelines. Option 4 is similar to Option 3 but facilitates four important developments, adding 5 FTE.

- With respect to Consumer Care Guidelines, the additional resource sought under Option 4 would allow the Authority to undertake more comprehensive consumer engagement (eg, through ongoing workshops and/or surveys) to gather perspectives on issues that are of utmost interest and concern to domestic and small business consumers.
- Work would still proceed on developing options for future additions to and/or alternatives to Powerswitch, but the additional resource under Option 4 would facilitate a shift to increased collaboration with relevant stakeholders to develop innovative solutions rather than relying on a more traditional approach of consulting on various options and then selecting an option taking into account feedback. Collaborative ways of working are more resource intensive because of the time spent in fostering and maintaining effective working relationships.
- Understanding retailer alignment with Consumer Care Guidelines is an important piece of work and Option 3 allows for good progress in this regard. The data that needs to be collected as part of this workstream is, itself, quite a complex process. Option 4 would enable the Authority to invest in designing and developing a more efficient process that could be repeated in the future. Work on redesign of the process would involve stakeholder engagement which would have the added benefit of strengthening stakeholder relationships.
- Lastly, under Option 4 additional analyst resource would be used to build models to undertake more in-depth analysis of data. Consistent with being a more proactive regulator, this would allow the Authority to get a richer and more nuanced view of the issues concerning consumers which, in turn, should then enable more targeted and fit-for-purpose solutions backed up with high quality evidence.

Operating the electricity system and markets

Under Option 4, one dedicated project manager is added to the commercial team rather than relying on project management resources that are shared with corporate services. The uplift in activity that is anticipated under Option 4 would stretch project management capacity. Option 4 therefore provides a degree of resilience and ability to better absorb peaks in workload.

Enforcing compliance

Consistent with regulatory theory and good practice, the Authority's compliance strategy signals that where risks are low and the right attitudes and behaviours are apparent, compliance effort should focus on providing information, education and encouragement for compliance. Option 4 points more in this direction than the preceding options, and adds 3 FTE; 1 team leader-education, 1 intel and reporting officer, and 1 education support officer.

Option 4 enables the Authority to strengthen its efforts in other areas of regulatory activity. Over time, and all other things being equal, this should lead to reduced need for enforcement thereby further shifting the balance toward information, education and encouragement.

Under Option 4, there is a bit more capacity to keep pace with increasing business-as-usual compliance activity. It also allows for a shift to theme-based analysis of non-compliance rather than just case-by-case analysis. Thematic reviews are part of the tool kit of other regulators and, generally, these help to get a much deeper understanding of the factors that drive, and lie behind, non-compliance. They also assist with tailoring the design and application of initiatives aimed at promoting compliance.

The increased size of the compliance team also allows for more career progression opportunities which is helpful in terms of recruiting and retaining staff. It also offers opportunities for staff to specialise in particular areas of compliance (eg, specific parts of the Code) with the benefit of more efficient and more nuanced compliance and enforcement activity.

Monitoring, informing and educating

A further increase in the number of monitoring personnel of 4 FTE would enable the Authority to achieve a significant shift toward much greater emphasis on forward looking analysis and research into consumer experiences of the electricity system. This includes investing in forecasting capability, including qualified specialist personnel, and the development of forecasting tools and models. These initiatives are consistent with being a much more future-focused regulator that is able to anticipate issues and proactively work toward solutions rather than reacting to initiatives raised by industry.

Monitoring focus will broaden to include monitoring the overall performance and "health" of the regulatory system; something that is a key part of the shift to strengthening the Authority's role as regulatory steward.

Communications and engagement

Information and education is enabled through engagement and communications. Option 4 involves adding a further senior advisor to the communications and engagement team to support:

- More frequent and deeper engagement including, in particular, with domestic and small business consumers and representative groups
- Working with iwi who are interested in, involved with and impacted by the shift to increased renewable generation and associated regulatory reforms
- Collaboration with other government agencies to address the Energy Hardship Expert Panel's recommendations
- Distribution of education and information material through various channels
- Building capability and commitment to Te Tiriti
- Improving digital platforms and creating a seamless online experience for participants.

Corporate support functions

Legal

Growth in other areas of the Authority (eg, including policy and enforcement) will have flow-on implications for the demands placed upon the legal team. In addition, however, under Option 4 additional resource of 3 FTEs would be directed to the following areas and activities, comprising a step change in the delivery of legal services from Option 2:

- Option 4 includes a significant uplift in Te Ao Māori capability and embedding this into the Authority's regulatory strategy, including how this might be reflected in the regulatory regime.
- Additional capacity will provide extra 'uncertainty insurance' for unexpected judicial reviews or other litigation; that is, additional capacity to back fill and provide resilience to continue with business-as-usual work when judicial reviews or other litigation make large calls on the time of the legal team.
- Further work will be undertaken on litigation strategy including assessing litigation risks and how best to minimise those risks proactively.
- More proactive legal advice and resources for the legal team and Authority to more effectively and efficiently engage.
- Better tracking of related policy and legislation that may impact on the work or strategic outcomes of the Authority, and accordingly better and faster implementation.
- Staff training programme to increase capability and awareness of legislative compliance, and more regular reviews of collateral to ensure it is up to date and factors in continuous improvement to have more impact.

Option 4 includes an increased focus on learning and development throughout the organisation (refer to people and capability below). In addition, depending on the size of the team changes, the structure may need to adapt to free up senior personnel within the legal team for strategic work. This means delegating some existing tasks to others which further adds to the need for a modest increase in the size of the legal team.

Under Option 4, 3 FTE staff are added over and above Option 3.

Corporate and market services (CMS)

An additional project manager is added to the team. The need for this position is driven by the additional volume of projects that could be progressed under Option 4.

People and capability

The key change under Option 4 is more focus given to learning and development (L&D). This includes the development of training plans for all staff and rationalisation of externally provided L&D training.

Under current arrangements, there is not a well-developed framework to describe and define the capabilities required across positions within the organisation or enough rigour to ensure gaps in capability are identified and addressed. Furthermore, individual teams and managers for the most part currently make their own arrangements to contract with external training providers. This can result in multiple managers contracting for the same service. Accordingly, there are opportunities to drive some efficiencies, including the option of appointing in-house capability and reducing reliance on external providers.

Under Option 4, the Authority would recruit a L&D specialist to address these and other issues that are constraining L&D across the organisation.

Data and information management

An additional developer would be added to the Authority's data and information management team. This resource would be responsible for completing a full data strategy refresh, facilitating collaboration with other government agencies and gathering proactive data insights for getting ahead of issues. This will support better decision-making and ultimately better outcomes for consumers.

Office of Chief Executive (OCE)

The primary change under Option 4 is building a team within the Office of Chief Executive (which does not exist currently but which would have a team of one under Option 3). The general growth in the size of the organisation warrants the establishment of a small team to support the CE and the Board.

Option 4 enables the Authority to address, at greater pace, changes to regulatory settings and also enables the Authority to have more initiatives underway at any point in time than is possible under the preceding options. This will mean more work for the Board which, in turn, means a need for more resource to support the Board. A 0.5 FTE would be introduced to carry out administrative support for increased Board activity. It is possible also that the Board will want to play a role as part of the increased focus on engagement and this too will drive the need for further Board support.

Among other roles, the OCE will be tasked, alongside people and capability, with driving Te Ao Māori / equity capability throughout the organisation. Option 3 begins the journey of establishing a base level of capability in this regard but, under Option 4, the Authority is looking to make a significant uplift of 3 FTE in its capability. The Authority notes that other regulators (eg, Waka Kotahi and the Commerce Commission) have made considerable progress in embedding Te Ao Māori into their regulatory strategies and ways of working. Currently, the Authority is a long way behind this level of maturity. Option 4 is intended to address this in a much more comprehensive manner than is enabled under Option 3.

Accommodation

With growth in the number of FTE kaimahi, the Authority will need to lease further office space equivalent to its current leased space. The cost of this extra office space has been included within the calculations for this option.

Phasing of costs

There is a significant number of new kaimahi to be recruited if Option 4 is approved (noting that this is not the preferred option) and recruitment and on-boarding of the new kaimahi will take up a significant portion of the 2024/25 year. Our calculations show that up to $6.0m of the extra funding in this option may not be required in 2024/25 due to remuneration savings arising from the phased recruitment of new staff. If Option 4 is the selected option then the Authority will work with MBIE to ensure that any unutilised levies in the 2024/25 year are returned to levy payers

Resourcing

Option 4 involves an additional 35.5 FTE staff over and above Option 2 (and 99.5 FTE staff more than Option 1).

Table 18: Allocation of new FTE across options by business unit: Option 4

Business Units (New FTE are denoted incrementally)	Current state	Option 1	Option 2	Option 3	Option 4
Market Operation Policy + Real Time Pricing	8.4	0	2	2	2
Wholesale Market Competition	13.4	0	1	2	1
Future Security & Resilience	6.2	0	1	1	1
Consumer Care	5.2	0	1	3	5
Distribution regulatory reform	7.0	0	2	4	3
Network Pricing	6.0	0	2	3	4
Legal	8.5	0	2.5	1.5	3
Compliance	12.5	0	3	3	3
Monitoring	14.3	0	1	4	4
Organisational Performance & Delivery	11.7	0	1	3	1
System Operator oversight / commercial	6.6	0	1	1	1
People & Capability	8.0	0	2	2	1
Data & Information Management	10.6	0	2	3	1
Communications & Engagement	9.6	0	2	3	1
Office of the CE	4.0	0	0	1	3.5
New Market Policy Team	0.0	0	2	2	1
Incremental New FTE	0	0	25.5	38.5	35.5
Accumulative Total FTE	132.0	132.0	157.5	196.0	231.5

Table 19: Expenditure by core regulatory function: Option 4

(expressed in millions of dollars)	2023/24 total	Option 4 incremental costs	Option 4 2024/25 total
Promote market development	$11.2	$11.2	$22.4
Monitor, inform and educate	$6.1	$4.7	$10.8
Protect the interests of small consumers	$4.1	$4.3	$8.4
Operate the electricity system and market:	$75.8	$9.7	$85.5
Enforce compliance	$3.6	$3.1	$6.7
Total Authority costs	**$100.8**	**$33.0**	**$133.8**

The Authority's expenditure has been attributed to its core regulatory functions, as detailed above. The allocation methodology attributes personnel and external costs directly to the appropriate function where directly linked, but costs which do not have a direct link are treated as overheads, eg office rent costs or support staff costs. Overheads are allocated to our core regulatory functions based on an appropriate underlying measure eg full-time equivalent employees.

Assessment – Option 4

Overall, Option 4 rates highly in terms of strategic alignment and value for money.

However, it is the most expensive of the options and it involves the most amount of change. Option 4 can be viewed as where the Authority wants to get to, but there are risks in terms of being able to fully realise the benefits of Option 4. Accordingly, at this stage Option 3 rather than Option 4 is the recommended option but the Authority is keen to signal Option 4 as being its preferred medium term option.

Progressing with the preferred option (Option 3) is consistent with this ambition and provides a good pathway toward it.

Strategic alignment - preparing for the transition

Option 4 is fully aligned with the Authority's statutory objectives and fully supports its strategy and the five strategic ambitions that underpin that strategy.

With respect to the statutory objectives, Option 4:

- Better enables the Authority to anticipate and address issues that might adversely impact on competition, reliability/security of supply and consumer interests. This includes investing in more analysis and forecasting capability as well as sooner and more frequent engagement with stakeholders.
- Is more focused on ensuring regulatory settings that address barriers to entry and investment, provide a level playing field especially for providers of DER and foster efficient price signals.
- Gives particular focus to identifying and understanding the issues and concerns that are uppermost in the minds of domestic and small business consumers and tailors solutions to those issues.

With respect to the Authority's strategic ambitions:

- the risks involved with the transition to a net zero emissions economy are effectively managed (even more so than Option 3) as a result of having more capacity and capability to ensure that market and regulatory settings keep ahead of the changing dynamics of the electricity system and markets.
- the increased ability to stay ahead of issues means that the Authority is not reacting to issues that sector participants draw to its attention and which have the potential to disrupt aspects of the transition in ways that may not lead to the best consumer outcomes.
- innovation is more likely to flourish because market and regulatory settings are fit-for-purpose and the Authority is better placed to respond to and resolve issues and challenges when they arise.
- consumer centricity is front and centre for the Authority reflecting more frequent and deeper engagement, and greater collaboration, with iwi and agencies at the forefront of consumer interests (including the Consumer Advocacy Council and Energy Hardship Reference Group).

Option 4 is more strongly aligned with enduring government expectations than is the case for Option 3 (or the other options). In particular, Option 4:

- Signals strong commitment to supporting the Māori/Crown relationship and embedding Te Ao Māori into its regulatory strategy and ways of working.
- Is much better aligned with the Government's expectations of its regulators including, in particular, regulatory stewardship roles around taking a whole-of system view, monitoring the effectiveness of the regulatory system, ensuring timely changes to regulatory systems so that they are fit-for-purpose and promoting good regulatory practices.

More so than any of the other options, Option 4 better manages the risks involved with the transition to a net zero emissions economy. It does so as a result of being better placed (than under any of the other options) to anticipate and address the myriad of issues that have the potential to derail aspects of the transition.

Economic alignment - value for money

The electricity sector is a significant part of the economy and affects the lives of, essentially, everyone in New Zealand. Even small gains in the efficient and effective operation of the electricity system and markets has, therefore, large economic, social and environmental impacts: lower prices for consumers than otherwise, less investment in sub-optimal solutions, swifter transition to renewables, increased security of supply and so on.

Option 4 involves the most cost, but it also delivers the most benefit, reflecting a number of features that are present under Option 4 but which are not as well developed under the previous options. These include:

- a more strategic and future-focused approach to the Authority's work which enhances the ability to keep up with, or ahead of, technological and market developments and lessen the risk of the Authority being a handbrake on the transition
- a much stronger role of regulatory steward which means more focus on how the system is performing and more effort to ensure that the parts of the system are working together as effectively as possible
- deeper and more nuanced consumer insights and consumer centricity
- much stronger support for Māori/Crown relationship
- stronger project management which helps to ensure projects are better planned and executed
- more capacity to undertake more work and complete that work in a more timely manner thereby enabling benefits to be realised sooner
- more in-house resources, and less reliance on external consultants, which will benefit the Authority by building internal capability, enabling more proactive, rather than reactive, work and more bandwidth to respond to unplanned events.

Option 4 enables improvements in the functioning of the electricity system and markets that extend beyond "small". The successful integration of DER is a good example of a significant development and, as noted earlier, the benefits stemming from this have been estimated to be in the order of $9 billion. The benefits associated with Real Time Pricing is another example.

Option 4 ranks the best of the four options in terms of helping to ensure that regulatory and market settings are as good as they can be to support and promote the operation of the electricity system and markets. It follows from this that Option 4 offers the most benefit.

The additional costs associated with Option 4 are modest in comparison – in the order of $30 million per annum over and above the current state (Option 1). In cost-benefit ratio terms, Option 4 is ahead of any other option because the costs are small relative to the potential benefits.

Commercial alignment - supplier capacity and capability

Option 4 commercial alignment is largely the same as Option 3.

Financial alignment - affordability

Option 4 is the most expensive of the options, circa $7.9 million over and above Option 3, and circa $30 million over and above Option 1. Accordingly, levy payers are likely to view this option as the least affordable. However, this overlooks the substantial benefits, many of which are financial in nature, that stem from ensuring that the design and operation of the regulatory system supports the efficient and effective functioning of markets. If markets do not function well, costs are ultimately higher than they need to be. In this sense Option 4 is, arguably, more affordable than the other options including from the viewpoint of consumers who, because industry participants can pass onto consumers the cost of the levy that funds the Authority, ultimately bear some, if not most, of the levy through their electricity bills.

In the short term, therefore, Option 4 rates poorly in terms of affordability. But taking a longer term perspective, Option 4 rates well in terms of the ultimate financial impact on consumers who benefit from electricity prices that are lower than they otherwise would be.

Management alignment - achievability

Of the options, Option 4 involves the most amount of change in terms of:

- Numbers of new hires (circa 99.5 FTE staff)
- Changes to the scope of the Authority's work
- Changes to ways of working

As discussed with respect to Option 3, the Authority has change management capability and arrangements in place to support its recruitment efforts. Moreover, under Option 4 the people and capability team is expanded to assist the wider organisation with the uplift in personnel numbers. Notwithstanding these points, Option 4 presents a significant implementation challenge in the short term. The step up in the overall size of the organisation is not without implementation risk. For this reason Option 4 does not rate as highly as other options on this particular criterion.

Sapere baseline review recommendations

Like Option 3, Option 4 enables the Authority to fully address the recommendations in the baseline review report including the areas identified for improvement. In this regard, there is no difference between Options 3 and 4.

Assessment table

Table 20: Options assessment: Option 4

The option is assessed according to 6 criteria, on a four point scale, laid out below in the key.

Key

Not at all	To some extent / somewhat	Quite a lot / mostly	Fully
■□□□	■■□□	■■■□	■■■■

Criteria	Option 1	Option 2	Option 3	Option 4
Strategic alignment	■□□□	■■□□	■■■■	■■■■
Economic alignment	■□□□	■■□□	■■■■	■■■■
Commercial alignment	■■■■	■■■■	■■■□	■■□□
Financial alignment	■■■■	■■■□	■■■□	■■□□
Management alignment	■■■■	■■■■	■■■□	■■□□
Sapere recommendations alignment	■■□□	■■■□	■■■■	■■■■

Conclusion

In considering the different levels of funding increase across options, Option 3 is the preferred option. Option 4 offers a longer term lens and some additional key benefits. However, Option 4 is more challenging to implement simply because of the larger change from the current state (compared to Options 2 and 3). For this reason, although Option 4 is a worthy choice, it is better viewed as being a medium term option rather than an option the Authority could implement in the near term.

Option 3 offers much better value for money than do Options 1 and 2 because the incremental benefits far outweigh the incremental costs. Option 3 also mitigates many of the core risks the Authority is facing, enabling the Authority to better deliver on its statutory objectives and meet its strategic ambitions.

Table 21: Options assessment: All options

The option is assessed according to 6 criteria, on a four point scale, laid out below in the key.

Key	Not at all	To some extent / somewhat	Quite a lot / mostly	Fully
	■□□□	■■□□	■■■□	■■■■

Criteria	Option 1	Option 2	Option 3	Option 4
Strategic alignment	■□□□	■■□□	■■■■	■■■■
Economic alignment	■□□□	■■□□	■■■■	■■■■
Commercial alignment	■■■■	■■■■	■■■□	■■□□
Financial alignment	■■■■	■■■□	■■■□	■■□□
Management alignment	■■■■	■■■■	■■■□	■■□□
Sapere recommendations alignment	■■□□	■■■□	■■■■	■■■■

The proposed increases to funding under Options 1 and 2 will limit the Authority's ability to effectively enable, let alone lead, the transition to 100% renewable electricity. At best (Option 2), the Authority will have sufficient resource to deal with known pressure points but will have little capacity to take on additional work not already planned for or committed.

The Authority will continue to lag behind industry and technological developments. The Authority will not be adequately equipped to deal with unexpected events and get ahead of changes in the industry. There is real risk, even under Option 2, the regulatory system will act as a handbrake to the increase of renewables and the transition to net zero emissions by 2050. Competition and reliability of supply could be compromised.

Under Option 2, the Authority will not be able to proactively engage with all consumers to fully understand their needs. Accordingly, the Authority's workplan, and regulatory settings, will not be tailored to serve all consumers in an appropriate way. Ultimately this means the Authority will fall short on its statutory objective in relation to protecting the interests of consumers.

The Authority recommends Option 3, subject to further comments below regarding Option 4. Under Option 3, the Authority can take a more strategic approach to its work. This includes developing a regulatory framework to define our regulatory approach, how it will be applied, our key programmes and focus areas, and intended outcomes. It also means being much more engaged with other regulators and agencies that play important roles in the regulatory system. The Authority will be future focused. It will be more proactive in its engagement with industry and other stakeholders. Its approach to protecting the interests of consumers will be more nuanced as a better result of understanding and analysing issues of concern to different consumer groups, including vulnerable consumers.

Reflecting the points above, Option 3 will enable regulatory settings that are fit-for-purpose for the changing environment. The risks surrounding the transition to 100% renewable electricity are, commensurately, lower than they are under Option 2 (or Option 1).

Under Option 3, the additional resource provided means the Authority will be better placed to address all the Sapere baseline review recommendations and do so at faster pace than is possible under Option 2 (or 1). Accordingly, under Option 3, the Authority will be operationally more cost effective and efficient than the previous options.

Notwithstanding that Option 3 is recommended by the Authority, the Authority considers there is considerable merit in Option 4. Option 4 includes some important differences compared to Option 3:

- there will be much stronger focus on Te Tiriti and embedding Te Ao Māori into the Authority's regulatory strategy, engagement and culture
- the Authority will progressively take on the role of regulatory steward with greater focus on monitoring, and ensuring, the health of the overall regulatory system
- complete review and modernisation of the Code
- deeper engagement, and greater collaboration, with iwi and agencies at the forefront of consumer interests.

The Authority views Option 4 as an articulation of where it wants to get to in the medium term (3-5 years). The Authority has stopped short of recommending an immediate uplift in funding and resources to the level of Option 4 primarily for the reason that Option 4 is a substantial shift from its current state. In simple terms, the shift would be very challenging to manage and implement successfully within a shorter time frame. Option 3 sets the Authority on the pathway toward Option 4. Subject to the successful implementation of Option 3, the Authority anticipates that, in the medium terms, it will look for further funding along the lines of Option 4.

In uplifting the ability of the Authority to deliver, the Authority identifies areas for work themselves, and takes on the regulatory stewardship role. Under Option 3, work that has been previously deprioritised can be completed, as well as more long term and strategic work, positioning the Authority in a far stronger position of preparedness and proactiveness to facilitate the transition to 100% renewable electricity by 2030.

Commercial Case

Under Option 3 the Authority expands, and introduces changes, more quickly than the previous options. The Authority has considered the capacity of the System Operator and the other main service providers to keep pace with the changes that the Authority wants to achieve.

Overall, the Authority considers that the System Operator and other service providers will have the capacity to contribute to the changes that the Authority is seeking to implement under Option 3. Many of the changes stem from requests made by the System Operator and other service providers. In a sense, Option 3 enables the Authority to give effect to changes that the providers want rather than being an option that goes beyond the boundaries of what the providers are capable of delivering.

In general, the Authority's providers are happy to accommodate change, though of course recognising that there will be an increase in costs to allow this to happen.

That said, however, there are two inter-related constraints that need to be monitored and managed; the timing of the changes and the availability of expertise to give effect to the changes.

In terms of timing, under the current state there can be challenges when asking service providers to introduce improvements. There are natural limits on how quickly any given process can proceed; for example if a public consultation were required before entering a formal Code change process, or if adequate development and testing time was required for an IT system change. These challenges will continue under Option 3 but they do not necessarily become more challenging. The natural limits (eg, timeframes for consultation or testing procedures) are factors that need to be built into work programmes rather than presenting an obstacle to undertaking work.

The second constraint is the availability of expertise. New Zealand does not have huge untapped depths of electricity system engineers (for example) to call upon. Potentially, this constraint may present more of a challenge under Option 3 than it does the previous options. Although it might not be possible to completely mitigate the risks associated with the availability of specialist capability, the Authority considers that several aspects of Option 3 will help to mitigate the risks as far as possible including:

- strengthening of project management capability and, hence, ability to anticipate and plan around potential constraints
- taking a medium/longer term view of the work ahead and planning accordingly
- more collaboration and engagement with service providers to help with identifying issues and constraints early and maximising opportunities to deal with those issues and constraints.

Financial Case

Table 22: Summary of Costs by option

$000	GMO appropriation 2023/24	2024/25 Option 1	2024/25 Option 2	2024/25 Option 3	2024/25 Option 4
Total new FTE		*0*	*26*	*65*	*100*
FTE costs	16,035	16,035	20,225	26,696	32,287
Overheads based on (FTE)	14,344	14,344	15,990	18,533	20,730
External support (Network Pricing)		0	615	805	1,685
External support (FSR)		0	0	100	300
Other fixed costs (office space)		0	100	750	750
General appropriation (excl market operator)	**30,379**	**30,379**	**36,930**	**46,884**	**55,753**
Increase on 2023/24 ($m)		*$0.0*	*$6.6*	*$16.5*	*$25.4*
% increase from 2023/24		*0%*	*22%*	*54%*	*84%*
Market operating appropriation					
System operator	47,065	49,816	49,816	49,816	49,816
Service provider - clearing manager*	3,128	2,774	2,774	2,774	2,774
Service provider - wholesale info and trading system*	1,942	1,930	1,930	1,930	1,930
Service provider - reconciliation manager*	990	2,386	2,386	2,386	2,386
Service provider - registry	778	828	828	828	828
Service provider - FTR manager	908	1,400	1,400	1,400	1,400
Service provider - depn and amortisation	1,199	1,319	1,319	1,319	1,319
Service provider - IT costs	24	35	35	35	35
Market making	14,400	17,500	17,500	17,500	17,500
Total Market operator costs	**70,434**	**77,988**	**77,988**	**77,988**	**77,988**
Increase on 2023/24 ($m)		*$7.6*	*$7.6*	*$7.6*	*$7.6*
% increase from 2023/24		*11%*	*11%*	*11%*	*11%*

TOTAL APPROPRIATIONS	**100,813**	**108,367**	**114,917**	**124,871**	**133,740**
% increase from 2023/24		*7%*	*14%*	*24%*	*33%*
$ increase from 2023/24 ($m)		*$7.6*	*$14.1*	*$24.1*	*$32.9*

Table 23: Summary of new appropriation required by option

(expressed in millions of dollars ($m)

	Option 1	Option 2	Option 3 (Preferred option)	Option 4
Existing appropriation	$100.8m	$100.8m	$100.8m	$100.8m
Authority operations (above 2023/24)	$0m	$6.6m	$16.5	$25.4
Third party service providers (above 2023/24)	$7.6m	$7.6m	$7.6m	$7.6m
Total appropriation sought	**$108.4m**	**$115.0m**	**$124.9m**	**$133.8m**

Management Case

Introduction

The management case describes the main challenges to implementing the preferred option and comments on the Authority's capacity to rise to those challenges.

Ensuring the Authority has the right capability and capacity

To prepare for any increase in employee numbers, the Authority is developing an overall approach that includes four key elements, each of which is discussed below.

Review of the organisational structure

The Authority is committed to an organisational design project to design a structure that fits the current needs and can flex for future growth. This will be scalable according to the final determined growth in employee numbers. The initiation date for the project is 2 October 2023 and the activity will run for the rest of the calendar year.

By working closely with the teams and their managers, the Authority will identify prioritisation of vacancies to enable managed growth, within the new framework. This "staggered" recruitment would feed into the next category, below.

A new framework will also assist further integration of leadership behaviours, expectations and roles and responsibilities so that the Authority is informed in recruitment and retention decisions. This includes a current review of extending the scope of human resource sub-delegations to tier three managers, minimising process bottlenecks and encouraging greater autonomy and agility in decision making that ultimately affects the needs of all consumers. – industrial, business and residential.

The framework will support managed growth, with resources dedicated to the training and development of current and new employees. By leveraging collective technical expertise, the Authority will be positioned to grow internal capability and offer internal career pathways for employees through development opportunities. the organisational design model selected extends beyond mere structural arrangements to encompass the dynamics of people, processes, and systems with a focus on sustained organisational performance.

Recruitment and onboarding

To support the dedicated recruitment advisor, key relationships established with agencies with specialisations in key areas such as policy and commercial roles will be utilised. This would also be aligned with a sourcing agent able to tap into passive talent pools. Significant growth in numbers will include additional people and capability advisors, able to assist with the challenges of growth.

The Authority's recruitment platform allows management of many vacancies simultaneously, connecting with and supporting the relevant hiring managers and providing data on role status. Inclusion on interview panels is shared across the people and capability team for consistency.

This platform has an additional capability to automate onboarding processes, should we need to manage increased staff numbers.

As accredited employers, the Authority can tap into international markets. While this has not been necessary for filling vacancies so far this year, this is as viable candidate source.

The Authority has already considered the establishment of an Auckland satellite office should we need to access this candidate market. Currently, there are two Auckland based staff who operate out of a shared space in the city. Any development in this area will align with the flexible organisational design.

The Authority has a robust initial onboarding process and has introduced a customised “training” or “onboarding” plan for new employees that focuses on their development in the first 3 -6 months of engagement.

To attract candidates in a tight market, the Authority continues to develop a strong employee value proposition through our career website pages and LinkedIn.

Prioritised recruitment

- People and capability has implemented a new payroll system which allows a well-managed position management function that will play a key role in creating and sequencing the recruitment and tracking of new roles.
- People and capability will work even more closely with the senior and wider leadership team to agree on prioritisation based on expected delivery of projects to meet KPIs. This will determine a project recruitment plan over an extended period, with the flexibility to scale up or down as determined once we know a likely increase in staffing numbers. This model is already in place. This spreads out the impact on recruitment, onboarding and integration across the Authority.
- Any mission-critical roles in established teams, identified either through the development of the new organizational structure or in response to the delivery of the Chief Executive’s strategic priorities, are flagged as top priority.
- For the creation of new teams, the approach is to recruit or promote managers and team leaders first, so that they are integral in the selection process of their staff – then work with them to build their teams. For example, the two teams this year: Operations and FSR.
- While the Authority has made a commitment over the last two years to reduce its reliance on contractors, they continue to be a viable option for short term cover, if necessary, to mitigate risk of failure to deliver while recruiting for permanent staff.

Attraction, retention and employee experience

Turnover has decreased by 26% over the last financial year, falling from 39% to 29%. A few resignations can have a significant impact on the overall percentage for a small to medium organisation. Increased staff retention has been influenced by a range of initiatives, such as encouraging hiring managers to promote internally when vacancies arise. This has provided development for current staff, retaining their knowledge and creating opportunities to attract juniors to train up through the ranks.

Other initiatives to retain talent include the following:

- A focus on upskilling leaders to develop and strengthen leadership skills to support high performing engaged teams.
- Ensuring our remuneration aligns with a competitive market while having regard to public service guidance.
- Offering retention incentives, through a defined process, specific to key areas of risk.
- Developing targeted staff development and career progression, training opportunities, mentoring and coaching.
- Remote and flexible working arrangements.

- A range of employee benefits.
- Professional membership.
- Annual engagement surveys.

Managing additional workload

Option 3 carries a significant uplift in the amount of work undertaken by the Authority. The Authority is confident that it can manage this. In addition to the recruitment programme noted above, initiatives to ensure that workload is manageable include:

- Establishing a number of team leader and manager positions to ensure spans of control are sensible and to give managers appropriate headroom to think strategically about their areas of responsibility
- Appointment of several project managers as part of strengthening project and programme management disciplines across the organisation
- An uplift in corporate support functions (eg, strengthening the business partnering model).

Change management

The Authority has been operating in a rapidly changing environment for the past few years. As the electricity industry transforms and faces uncertainty, there are increasing expectations on the Authority to provide certainty through a stable regulatory framework. The need to stay ahead or at best catch up has given the Authority pause to consider the types of skills necessary to regulate in a less pedestrian environment. A more diverse skill set will ensure the Authority has the breadth of capability required to navigate a technically complex and increasingly ambiguous environment in which regulatory certainty is critical. Necessary to this mix will be some capacity comfortable with and experienced in change management practices.

The current change management capability and maturity sits largely within the senior leadership team with a few additional individuals spread across the organisation who push forward with incremental change while balancing heavy workloads. Additional capacity will free up those change agents to support the leadership team to drive the change necessary. However, the Authority recognises that executing the change management plan and driving improvement while retaining employee engagement will likely require additional expert change advice to establish the plan and provide initial support for Option 3 and 4 given the large FTE impact. This additional change management resource has been factored into both options, respectively.

It is important to note the Authority has weathered a considerable amount of organisational and leadership changes over the past few years. This has been largely led in house by the senior leadership team. The 2023 engagement results indicate that despite the changes, the current culture of the Authority is largely positive and reflects a readiness for the step up required.

Concluding comment

The transition to a net zero emissions economy is driving rapid transformation at an unprecedented scale with new and emerging disrupting the electricity industry and how the market operates to keep the power on. The Authority, as a regulator, must keep up with this transformation and enable change to ensure consumers and the country benefit from the transition. This requires more funding to make sure the regulator catches up, keeps up and plays a leadership role to progress an electrified country and net zero emissions at the least cost to all consumers.

Under current funding, the Authority does not have enough resources to address a growing backlog of work. Although some efficiency gains might be possible (reflecting recommendations in the baseline review), these will be nowhere near sufficient to fund the work that needs to be undertaken and which is expected of the Authority. As noted in the baseline review, the Authority is under financial pressure.

Four options have been canvassed in this business case. Option 3 is the preferred option. Option 3 enables the Authority to lead the transition, helping to ensure the success of the transition and minimise any risks of disruption. Ultimately, Option 3 is the option that best positions the Authority to deliver on its statutory obligations and achieve its strategic ambitions.

Ultimately, Option 3 means greater security of supply and a lower long-term cost to consumers than otherwise.

Appendix A Glossary and abbreviations

Term	Definition
FTE	Full Time Equivalent
BBC	Better business case
the Act	The Electricity Industry Act 2010
9 August 2021 event	On 9 August 2021, approximately 34,000 customers across New Zealand experienced an electricity cut without warning. Alleged breaches by three participants were investigated.
the Code	The Code is the set of rules that governs nearly every aspect of the electricity industry – from generation, to transmission, system operation, security of supply, market arrangements, metering, distribution and retail.
LOE	Letter of Expectations
DER	Distributed Energy Resources (DERs) – small-scale, distribution-connected assets that either reduce load or export more power – whether generation (eg, solar panels), storage (eg, batteries), EVs, or technology to flexibly manage loads (such as water cylinders or pool pumps at the premises). DER can use, generate, or store electricity and form a part of the local distribution system, which primarily serve homes and businesses. Generation or storage DER mainly operate for the purpose of supplying all or a portion of the customer's electrical load but may also be capable of supplying power into the system or alternatively providing a load management service for customers. DER can also include front-of-meter small generation or storage located in lower-voltage parts of the network
MDAG	Market Development Advisory Group
BCG	Boston Consulting Group
PPA	Purchase Power Agreement
EV	Electric vehicle
Sapere report	Electricity Authority Strategic Baseline Review conducted by Sapere
FMS	Flexibility Management Systems: software-based platforms used to communicate, manage and orchestrate Distributed Energy Resources
CBA	Cost benefit analysis

FTR	**Financial Transmission Rights**
FSR	**Future Security and Resilience**
Consumer Care Guidelines	**Retailers are expected to use the Authority’s consumer care guidelines to provide a consistent and supportive standard of service to domestic consumers.**
SLT	**Senior Leadership Team**
P&C	**People and capability**
UTS	**Undesirable Trading Situations**
OPD	**Organisational Performance and Delivery**
L&D	**Learning and Development**
OCE	**Office of Chief Executive**
SRC	**Security and Reliability Council**
TPM	**Transmission Pricing Methodology**

Appendix B Sapere report recommendations

Tier 1: the most significant matters for the Authority, important for meeting statutory objectives

Table 24: Tier 1 Sapere report recommendations

Tier 1: Areas to improve
There needs to be improved confidence in reliability by addressing winter peak concerns, progressing the Future Security and Resilience work programme, and optimising working arrangements with the Security and Reliability Council and system operator. The Authority notes this is all currently under action.
The relationships between the system operator, MBIE, the Commerce Commission and the Authority need to improve in maturity with collective responsibility for the electricity sector and agreed inter-agency roles, accountabilities and boundaries, including shared responsibility for efficiency and management of risks.
Raise the strategic outlook of the regulator to being long-term (10 years) with a three-year planning horizon.
Clarify the link between strategy and work programme, including prioritisation framework and when different levers or approaches will be used (eg, market facilitation, education, review of Code, enforcement), clarify boundaries of the Authority's role and on what and how it will work with others, and develop medium-term regulatory strategy. We note funding needs should be linked to the Authority's medium-term regulatory strategy, priorities and ways of working.

Tier 2: significant matters for the Authority

Table 25: Tier 2 Sapere report recommendations

Tier 2: Areas to improve
Address staff turnover and improve staff capability – appoint key positions, fill key skill gaps, and improve culture (allocation of roles and responsibilities, including reviewing delegations, risk tolerance, and operating models; and progress review of consultation and engagement processes with a view to improving perceptions of authenticity and timeliness) and ensure

there is sufficient technical capability whether employed, contracted or shared with the industry.
Address backlog of Code changes (short-term) and, in slower time, review and modernise the Code to make it easier to engage with and enable greater flexibility to update standards. To achieve medium-term objectives, there might need to be a Code override.
Improve understanding of the links between projects, their resourcing demands and organisation planning and strategy, from team involvement in undertaking projects to the likely implications of addressing recommendations resulting from initial reviews.
Work on key relationships, assigning senior points of contact for key stakeholders, and considering resuming regulatory manager meetings.
Review where processes could be more agile and innovative and identify continuous improvement programmes. For instance, leveraging opportunities to improve data exchange processes and considering whether there are opportunities to integrate market and network reconciliation.

Tier 3: more discrete issues we suggest should be more easily addressed by the Authority.

Table 26: Tier 3 Sapere report recommendations

Tier 3: Areas to improve
Improve culture of review and engagement. This should also extend to the application of risk management practices.
Improve knowledge management practices.
Provide a helpful IT environment.