



STATEMENT OF INTENT

1 JULY 2020 – 30 JUNE 2024



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FOREWORD

While the Electricity Authority's statutory objective, powers and functions have remained the same since 2010, the environment in which we operate has changed.

Climate change, new economic drivers, consumer behaviours and external expectations have all shifted the way in which energy system development is considered. Impacts of COVID-19 also continue to affect our lives.

The Authority plays a critical role for all New Zealanders. The industry we steward provides an essential service. Electricity is a foundation for modern life, wellbeing and the economy.

We take our responsibility very seriously, incorporating a wider whole-of-system lifecycle view of regulation and a proactive collaborative approach to monitoring and development.

Five key interrelated sector ambitions now focus us to ensure electricity regulation creates a platform for economic recovery, accelerating growth and wider long-term benefit for New Zealand.

We want consumer centricity to guide regulation and the industry

Consumer centricity is a key enabler for innovation and better services. We want consumers and the understanding of their varied perspectives and aspirations to be front and centre of industry development – whether they are individuals, households, communities, small, medium or large businesses or industrial consumers.

We want low-emissions energy to electrify the economy

Electrification will drive the transition to a low-emissions and productive economy. We want a stable investment environment with robust rules 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.

We want to build trust and confidence in the industry for all stakeholders

Whether a regulator, participant or consumer, transparency and understanding and the behaviours of others play a critical role in decision making. We want participants to have regulatory confidence, stakeholders to trust in the system's reliability, to see better practice across industry and consumers to feel empowered to act and understand how regulation delivers benefit.

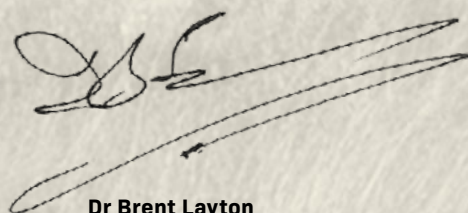
We want to see thriving competition delivering better outcomes for New Zealanders

Market competition is a key enabler – driving progress, affordability, efficiency and valuable outcomes for New Zealand. We want to see competition reinforced and expanded across new parts of the supply chain to drive innovation and technology adoption and place more downward pressure on price.

We want to see innovation flourishing

Innovation and new technology will affect how electricity is generated, distributed and consumed and ultimately change the cost and competitive structure of our industry. We want to see the full benefits of innovation unlocked for consumers so diverse needs can be met and new ways to participate enabled.

New Zealand's electricity industry is considered world-leading both domestically and internationally. Regulation serves all New Zealanders, providing a stable investment framework and fair rules to ensure the industry delivers the right balance of reliability, sustainability and affordability to create collective benefit for the country for generations to come.



Dr Brent Layton
Chair, 4 June 2020



Mark Sandelin
Member, 4 June 2020

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INTRODUCTION

Electricity is essential to modern life – its potential to support improved social, economic and environmental outcomes is significant.

BACKGROUND

On 1 November 2010, the Electricity Industry Act 2010 (the Act) established the Electricity Authority (the Authority) as an independent Crown entity and regulator of the electricity industry.

We are tasked with governing New Zealand’s electricity industry. The Act sets out our statutory objective, roles and functions and authorises the making of regulations and the Electricity Industry Participation Code 2010 (the Code). The Code sets out the rules for the electricity industry.

In addition to the Act, two key pieces of legislation are applicable to our work:

- The Public Finance Act 1989 defines the key accountability requirements for the state sector.
- The Crown Entities Act 2004 provides the specific planning and reporting requirements for Crown entities.

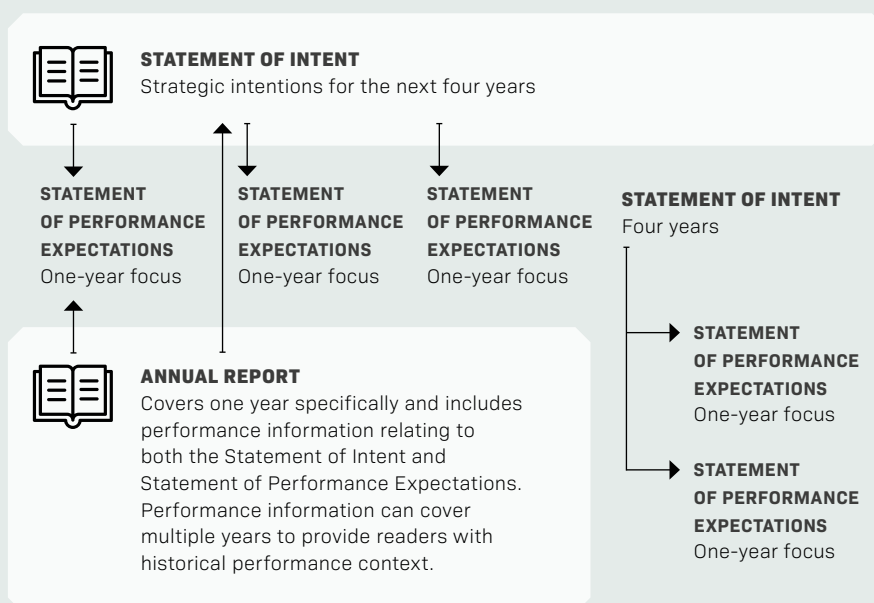
ACCOUNTABILITY STATEMENT

This Statement of Intent is a public accountability document required under sections 139 and 141 of the Crown Entities Act 2004. It outlines our long-term strategic intentions for the period 1 July 2020 to 30 June 2024. The Statement of Intent may be updated at any time but no later than 1 July 2023.

For detailed financial and non-financial performance information, please see our Statement of Performance Expectations, which is published annually and is available on our website. For further information about our work, visit ea.govt.nz.

PLANNING AND REPORTING CYCLE

The diagram below sets out how each of our key publications fits our planning cycle.



ELECTRICITY IN NEW ZEALAND

Over the past 20 years, New Zealand's electricity market has been praised domestically and internationally – it is considered world-leading. During this time, the Authority's work embedding a market-based regime has delivered significant benefits that other jurisdictions can only envy.

We have high levels of system reliability and efficiency, the competitive wholesale and retail markets provide consumers access to increasingly efficient pricing and 84% of our electricity already comes from renewable sources. It's also one of our most capital-intensive industries with around \$7-9 billion spent on electricity per year.

Still, there is significant opportunity for electricity to play a bigger role in helping New Zealand grow, meet its challenges and support economic recovery.

IN NEW ZEALAND, THERE ARE:

1.75m

RESIDENTIAL CONSUMERS

175,000

COMMERCIAL CONSUMERS

78,000

**AGRICULTURE, FORESTRY
AND FISHING CONSUMERS**

44,000

INDUSTRIAL CONSUMERS

Source: Ministry of Business, Innovation
and Employment

DRIVERS OF OPPORTUNITY

ENERGY SYSTEMS AND CONSUMER BEHAVIOUR

As technology and society progress, so does disruption to traditional electricity business models. Changes in consumer behaviour, electricity generation, consumption, storage and the use of smart technology will influence evolution of our energy system, including multi-directional power flows on networks.

ELECTRIFICATION TO COMBAT CLIMATE CHANGE

Electrification is key to reducing the emissions from New Zealand's wider energy system and economy. The share of renewables in total primary energy supply reached 40% in 2018. Much more renewable generation at all scales is needed, especially to transition away from fossil fuels used in heat and transport.

WELLBEING, AFFORDABILITY AND ENERGY AS AN ECONOMIC DRIVER

The Government's Economic Plan for a Productive, Sustainable and Inclusive Economy (2019) aims "to build a more productive, sustainable and inclusive economy to improve the wellbeing and living standards of all New Zealanders". Sustainable and affordable energy systems are key economic shifts required to achieve this vision.

OUR PURPOSE

We guide the nation's electricity system on behalf of all New Zealanders – promoting positive outcomes today and ensuring continued enhancement and reliability for future generations.



We are the **kaitiaki**
of electricity.

Our work provides the platform from which electricity can be used to make things better.

Our purpose is to **enhance**
New Zealanders' lives,
prosperity & environment
through electricity.

Electricity is an enabler – a mechanism for change and progress.

Electricity regulation is the tool through which we can contribute to wider outcomes. Electrification of the wider energy system will play a key role in the transition to a low-emissions economy.

Electricity plays a critical role in the quality of our lives and businesses, the state of our environment, the strength of our communities, the performance of our economy and the nation as a whole.

OUR PLACE IN THE ENERGY SYSTEM

THE ROLE OF REGULATION

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.

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 Treaty of Waitangi to ensure the right rules are in place that both enable and guide change.

ELECTRICITY INDUSTRY REGULATION

The Authority was established as an independent Crown entity to regulate the electricity industry for the long-term benefit of consumers.

We oversee the operation of the electricity system and markets, developing, setting and enforcing the rules the markets must follow (the Code) and holding industry to account by actively monitoring the market's behaviour and performance.

Acting as kaitiaki, our regulatory stewardship aims to both protect the progress and strengths of New Zealand's electricity system for generations to come and ensure industry participation continually builds new strengths and adds value as it delivers the outcomes for consumers that Parliament expects of us.

Our independence is valuable for promoting high-performing electricity markets – reducing the risk of intervention and increasing predictability in how the regulatory regimes operate. This is important for sectors like electricity that are technically complex and rely on long-lived capital-intensive investments.

While this means we give advice rather than take direction, we are attuned to the external environment in which we operate and the Government's key priorities.

Our work needs to meet the requirements of legislation and best-practice guidance provided by central agencies,¹ the Office of the Controller and Auditor-General (OAG) and Audit New Zealand.

WHO AND WHAT WE REGULATE

Our primary function is to regulate New Zealand's electricity markets. High-performing markets have a direct link to innovation, investment and increased levels of competition – driving improved outcomes for consumers and supporting economic growth.

For over 20 years, the wholesale spot market has operated effectively in providing signals for efficient generation investment, including managing dry-year risk when the lakes used for hydro-electric generation have less water. This has been supported in more recent years by well-functioning hedge markets that provide parties with the means to enter into forward contracts for purchasing electricity and the ancillary service markets that are used to ensure New Zealand's electricity system is stable and reliable.

Through the retail market, consumers can now choose from many different retail brands, plans and packages on offer. Switching between providers is relatively easy and quick, with New Zealanders having one of the highest switching rates in the world.

Nearly every aspect of the electricity industry and participant type is covered in the Code including:

- generation of electricity
- wholesale electricity market
- transmission via the national grid
- system operation
- security of supply
- market arrangements
- metering
- distribution via local networks
- retail electricity market.

¹ The central agencies are The Treasury, State Services Commission and the Department of the Prime Minister and Cabinet.

STATUTORY OBJECTIVE

What we are accountable for

The Act gives us a statutory objective to promote competition in, reliable supply by, and the efficient operation of, the electricity industry for the long-term benefit of consumers. The statutory objective is what we are accountable to deliver.

COMPETITION

Competition helps ensure New Zealanders have plenty of choice about how they get and use electricity and improves their access to competitive pricing. We encourage competition in all electricity-related markets right across the supply chain, taking into account long-term opportunities that will lead to better outcomes for consumers.

RELIABILITY

Reliability is important because homes and businesses depend on a continuous supply of electricity. We seek reliable day-to-day and long-term security of electricity supply for consumers. Our regulatory focus on reliability will become even more important as the country reduces emissions through increased electricity use.

EFFICIENCY

When efficiency is high, electricity system resources and investments are focused in the right areas and costs to operate the system can reduce and become more flattened. On-going innovation and improvements help create greater efficiency. For consumers, greater efficiency should translate into more affordable electricity and services.

*We set out our **competition, reliability** and **efficiency** outcome measures later in this document.*

OUR FUNCTIONS

The things we do

The Act sets out our functions, describing the activities we perform and the tools through which we can pursue our statutory objective and ambitions. They can be summarised into four main functions.

1. PROMOTE MARKET DEVELOPMENT

To enable New Zealand's electricity markets to deliver better outcomes for consumers, we maintain a responsive regulatory environment that both reflects industry's current state and supports innovation and change. Key tools for market development include market facilitation measures and amending the Code.

2. MONITOR, INFORM AND EDUCATE

Transparency and understanding are vital to the operation of the electricity markets. Our market monitoring, information and education work focuses on making data, information and tools available, increasing participation and improving awareness of how electricity markets function.

3. OPERATE THE ELECTRICITY SYSTEM AND MARKETS

We are responsible for the day-to-day operation of the electricity system and markets. To achieve this, we contract out some services including the role of system operator, which provides the real-time coordination of sending generated electricity across the national grid to meet demand from consumers.

4. ENFORCE COMPLIANCE

We ensure the Act, regulations made under the Act and the Code are followed by electricity industry participants. Our compliance function also helps improve the industry more generally, as lessons learned support our education of participants and help us to identify and resolve on-going or systemic issues.

The combined function set gives us a range of levers to promote certain behaviours or outputs from the sector.

Our annual Statement of Performance Expectations details our intended operations for the financial year and the measures we use to monitor performance for each function. We then publish the results every year in our Annual Report.

Did you know? We are a third-tier legislator

LEVELS OF LEGISLATION	WHO CREATES THE LEGISLATION
First tier Acts of Parliament	Parliament sets rules through Acts of Parliament. The Electricity Industry Act 2010 is the primary Act that relates to our work.
Second tier Regulations	The Government sets rules through regulations. While the Authority may provide advice on regulations and Acts in relation to the electricity sector, this work is mainly done by the Ministry of Business, Innovation and Employment.
Third tier The Code	The Authority sets rules for the electricity sector through the Electricity Industry Participation Code 2010.

A photograph of a woman and a young child looking out a window. The woman is on the left, wearing a striped shirt, and the child is on the right, also wearing a striped shirt. They are both looking towards the right side of the frame. The image is overlaid with a large, faint diamond shape.

OUR STRATEGY

We have been successful in promoting strong competitive markets. Now we're thinking more broadly to ensure our regulation responds to a changing world.

OUR STRATEGIC FRAMEWORK

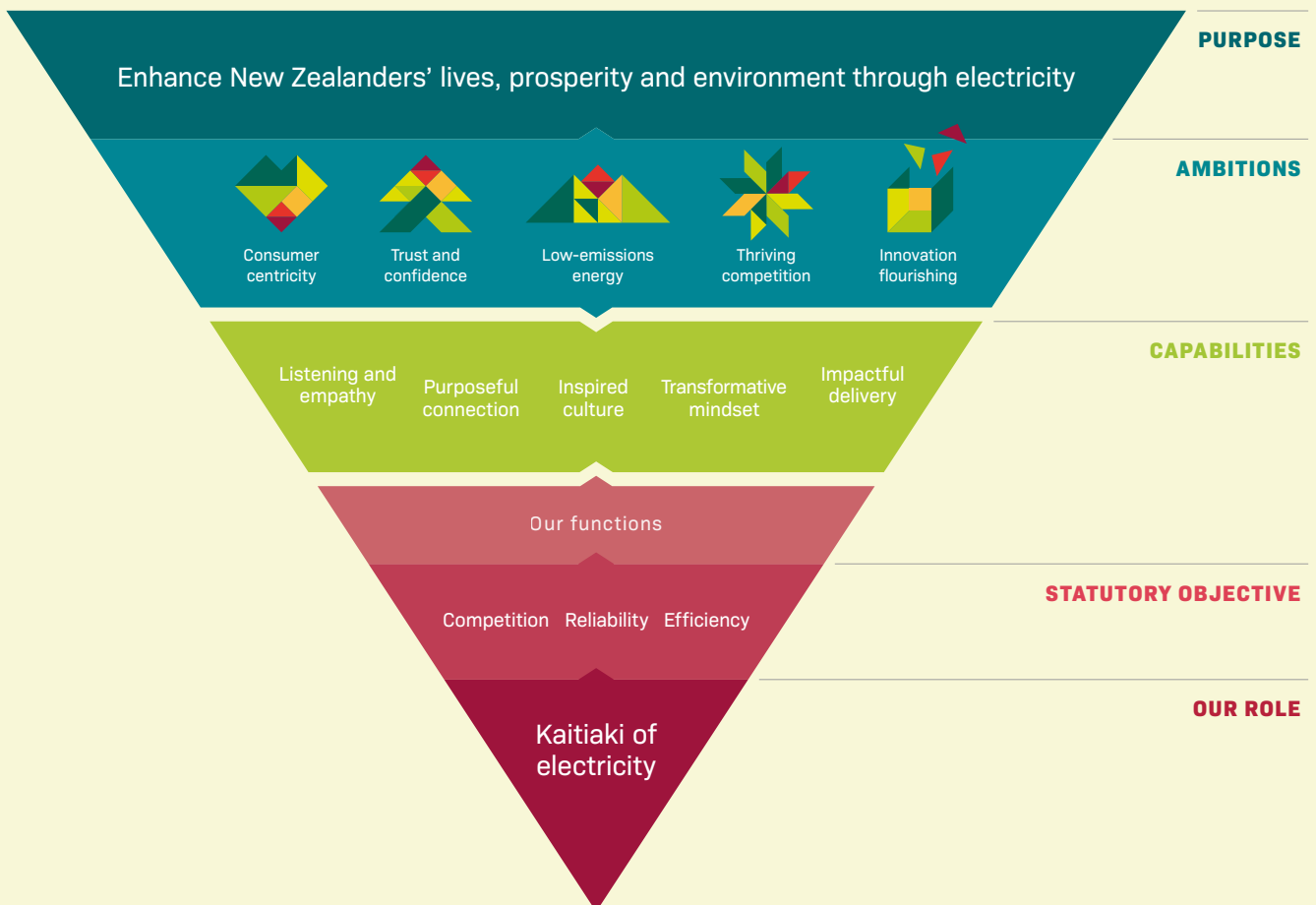
As the regulator of New Zealand’s electricity system, our work provides a platform for the country to achieve its aspirations for enhanced quality of life, prosperity, the environment and the transition to a low-emissions economy.

Our integrated framework – aligned to the tikanga-based values of kaitiakitanga (long-term sustainability), manaakitanga (social responsibility), whanaungatanga (social connections) and whairawa (thriving whānau) – sets out five strategic ambitions for the sector that guide the prioritisation of our work.

The ambitions provide focus in both the pursuit of our statutory objective and our purpose – ensuring we create wider long-term benefit for New Zealand.

Five key strategic capabilities underpin success. We focus on these capabilities to ensure work we do achieves measurable results.

INTEGRATED STRATEGIC FRAMEWORK



OUR STRATEGIC AMBITIONS

Our strategic ambitions for the sector are more than an aim or a prioritisation tool. They describe success and how the electricity industry can make a difference.

We are taking deliberate action on behalf of New Zealand consumers. Our ambitions reflect a collective call to action for and by the sector and show our commitment to the broader economic and social goals to which electricity can contribute.

Successful delivery of our functions and statutory objective are a fundamental part of all five ambitions – meaning continued focus on delivery of high-quality operational activities, increasing retail and wholesale market competition, enforcing compliance and improving the regulatory, transmission and distribution systems.

Initially, we will progress initiatives aligned with Electricity Price Review recommendations and the Government's letter of expectations and be responsive to the impacts of Covid-19 to ensure the electricity industry supports New Zealand's economic recovery.

IMPACT MEASUREMENT

The outcomes we seek are defined by our statutory objective – competition, reliability and efficiency in the electricity industry. Impacts are the contributions our work makes towards achieving those outcomes.

Impact measurement helps focus an organisation's effort where the greatest benefits and impacts are expected. We use this to define the priority actions for each strategic ambition and how we will measure progress.

Reporting on impact measures includes a mix of statistical analysis and qualitative assessments. External factors can also influence results, and measurable change may take several years to become clear. When relevant, we provide commentary on these influences in our Annual Report.

The impact measures for our strategic ambitions are shown in the tables in the following pages.



Consumer centricity



Trust and confidence



Low-emissions energy



Thriving competition



Innovation flourishing

LOW-EMISSIONS ENERGY

Electrification is a key enabler in the transition to a low-emissions economy.

Unlocking the potential for more renewable generation is a focus for the Authority. We work hard maintaining, developing and implementing market rules that give investors confidence and signal where additional generation is required.

All forecasts for the energy sector's near future show the need to electrify New Zealand's heat and transport and increase low-carbon electricity generation. Making more use of New Zealand's renewables advantage is essential in our transition to a low-emissions economy. The required level of investment in new generation will be significant.

We need to promote a stable investment environment with robust rules 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.



Priority actions we will take

ACTION	MEASURE ²	SOURCE ³	DESIRED TREND
<p>Ensure electricity market settings and conditions support an efficient transition to low-emissions energy, through competition, whilst maintaining reliability</p>	<p>Market participant confidence in settings to facilitate efficient transition</p> <p>Market participant confidence in reliability as New Zealand transitions to low-emissions energy</p>	<p>Participant survey</p>	<p>Increasing</p>
<p>Implement price signals that facilitate lowest overall cost to consumers, including through investment in and operation of energy technology and demand-side flexibility</p>	<p>Level of implementation of cost-reflective network prices, transmission pricing and real-time pricing</p>	<p>Authority data, including from network companies</p>	<p>Implementation increasing</p>

² Note that, when reporting against these and other impact measures, we may augment them with quantitatively observable data, as appropriate.

³ Measurement for all impact measures – including surveys – will be undertaken annually. The first results will be reported in our 2020/21 Annual Report.

CONSUMER CENTRICITY

When decision making is centred around consumer outcomes, more diverse needs can be met and expectations exceeded.

We have focused on creating long-term benefit 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.

Expectations of both regulator and industry have shifted – recognising a need to think more broadly about the wider environment we interact with, strengthen the consumer voice and deeply consider how our decisions affect outcomes for all consumers whether they are domestic, community, small, medium or large businesses or industrial consumers.

We will put consumers and our understanding of their varied perspectives and aspirations front and centre of what we do and how we do it. Consumer centricity in energy system development is a key enabler for innovation and further improving consumers' access to better pricing, control and ability to participate in energy markets.



Priority actions we will take

ACTION	MEASURE	SOURCE	DESIRED TREND
Provide clarity on consumers' needs and the impact our decision making has on those needs being met	Assessment of the quality of our decision making on meeting consumers' needs	Independent assessment	Increasing
Increase the participation of and engagement with consumers in our decision-making processes	Assessment of the quality of our engagement with consumers in our decision-making processes	Independent assessment	Increasing



TRUST AND CONFIDENCE

High levels of trust and confidence drive action and acceptance and reduce intervention.

To date, we have emphasised the development of rules that promote consumer choice, give clear investment signals and treat participants equally. We monitor industry closely and act when required – favouring a largely non-interventionist facilitative approach.

However, it is increasingly important 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 long-term benefit. Participants require a stable investment framework and regulatory environment to enable decision making that will deliver further benefit to consumers.

As regulator, we need to continue using markets and our compliance function to create the right incentives for progress, work with participants to ensure better practice by all of industry and enhance consumers' and stakeholders' understanding of the electricity industry and how it delivers benefit.



Priority actions we will take

ACTION	MEASURE	SOURCE	DESIRED TREND
Increase our industry leadership and build trust and confidence in how we are taking up our kaitiaki role	Participant perceptions of trust and confidence in us and how we are fulfilling our role	Participant survey	Increasing
Increase active monitoring and reporting on the operation of the sector to improve conduct and compliance	Participant perceptions of the quality of our monitoring	Participant survey	Increasing
Monitor and enhance the operational efficiency and reliability of the electricity industry on an on-going basis	Participant perceptions of reliability and operational efficiency	Participant survey	Increasing
Increased knowledge gained by consumers and more broadly about New Zealand's electricity sector and the energy trilemma trade-offs	Assessment of the quality of material produced (e.g. EMI reports, thought pieces)	Independent assessment	Increasing



THRIVING COMPETITION

Market competition is a key enabler to deliver a better energy future – driving progress, affordability, efficiency and valuable outcomes for New Zealand.

Our market-oriented solutions have successfully reduced barriers to retail participant entry and expansion. Consumers can now choose from over 40 different brands with some now opting to pay the wholesale market spot price rather than a fixed plan.

Increased disruption to traditional electricity business models and industry structure through competition improves choice, control and affordability for consumers.

Competition and competitive pressure now need to expand across new parts of the supply chain to drive efficiency, reliability and innovation and integrate new technology.

We're committed to encouraging participation and reinforcing 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 risk and provide consumers value for money through a growing range of innovative products, services and opportunities to participate.



Priority actions we will take

ACTION	MEASURE	SOURCE	DESIRED TREND
Identify and remove inefficient barriers to new entrants entering and competing with established participants, especially in the wholesale market	Participant perception of ability for new entrants to compete with incumbents	Participant survey	Increasing
Ensure that networks are open and that regulatory and market settings enable the full potential of distributed energy resources (DERs) to be realised for all New Zealand electricity consumers	<p>Number of network companies seeking to procure non-network services on a competitive basis</p> <p>Number of participants providing non-network services to network companies</p>	Network company survey	Increasing

INNOVATION FLOURISHING

Evolution of the electricity system will be achieved through innovation and disruption, with participants and the Authority thinking beyond the status quo.

The unique challenges of New Zealand's electricity market have led to innovative approaches to wholesale, retail, reserve management, security of supply and supporting participants to manage risk. Our preference for market-based instruments – proven to be technology-friendly – positions New Zealand for continued change.

Innovation and new technology will affect how electricity is generated, distributed and consumed and ultimately change the cost and competitive structure of our industry. Data transparency, insights and automation will act as key enablers for increased deployment of distributed energy resources and support consumers' ability to control their energy use and participate in new ways.

Our role is to 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.



Priority actions we will take

ACTION	MEASURE	SOURCE	DESIRED TREND
Increase the availability and transparency of industry data	Number of data transactions we have facilitated Number of new datasets we have provided access to	Authority data	Increasing
Increase the ability of the regulatory system to accommodate new business models	Participant perception of the ability of the system to support rapid change Number of sandboxes, trials and pilots in play across the network	Participant survey	Increasing



OUTCOME MEASUREMENT

What we are accountable to deliver

We use outcome measures for **competition**, **reliability** and **efficiency** to see how successful our work has been at advancing our statutory objective. The following measurement tables describe the high-level results we seek and how we are tracking.

Competition

HIGH-LEVEL RESULTS SOUGHT	HOW WE TRACK RESULTS	TARGET	RESULTS TO DATE (2018/19 ANNUAL REPORT)*
Widespread confidence among consumers in the competitiveness of electricity markets	Perception surveys: Percentage of survey respondents with an opinion on the matter who rate the electricity industry as neutral or better against the statements:	Overall improvement in survey results since Authority intervention began in 2011	Perceptions of competition worsened in 2019 after a sustained period of improvement.
	“The current level of competition among electricity generators ensures they build the most efficient power stations and generate electricity as cheaply as possible”		2011 result: 45% 2014 result: 51% 2017 result: 54% 2019 result: 48%
	“The current level of competition between electricity retailers ensures that prices consumers pay only rise in line with costs to the electricity companies”		2011 result: 44% 2014 result: 45% 2017 result: 50% 2019 result: 50%
Overall improvement across a suite of statistics on electricity market competition**	Measures covering residential, spot, hedge and ancillary service markets. Statistics will also address entry and exit data, dynamic efficiency and information about investment and innovation	Overall improvement in suite of competition statistics	Achieved. There was a continued improvement in the suite of competition statistics during 2018/19.

Notes

* Full results for each year are available on our website at ea.govt.nz/about-us/corporate-projects.

** The following suite of statistics will be reported in our Annual Reports:⁴

1. Retail market concentration (HHI statistic)	Improving trend.
2. Retail market share (CR4 statistic)	Improving trend.
3. Net pivotal analysis	The most net pivotal generator is still only net pivotal less than 2% of the time.
4. Hedge market concentration (HHI statistic)	Herfindahl-Hirschman Index (HHIs) were low overall for both monthly and quarterly contracts.
5. Concentration in the ancillary services market (HHI of reserves statistic)	The HHI for New Zealand has remained low and stable since the introduction of the national market for reserves.
6. Number of retailers' approaches to consumers with offers to induce switching (measured by survey)	Approaches increased up until 2014, then fell in 2016 and 2018.

⁴ See the glossary for explanations of these statistics.

Reliability

HIGH-LEVEL RESULTS SOUGHT	HOW WE TRACK RESULTS	TARGET	RESULTS TO DATE (2018/19 ANNUAL REPORT)*
Widespread acceptance among consumers of efficient levels of supply reliability	Perception surveys: Percentage of survey respondents with an opinion on the matter who rate the electricity industry as neutral or better against the statements:	Overall improvement in survey results since Authority intervention began in 2011	Perceptions of reliability worsened slightly in 2019 after a sustained period of improvement.
	“There is a reliable supply of electricity each day, that is, a good balance is achieved between the cost of power cuts versus the cost of maintaining electricity supply”		2011 result: 60% 2014 result: 74% 2017 result: 75% 2019 result: 71%
	“There is enough electricity to meet on-going needs, that is, a good balance is achieved between the cost of having some power stations sitting idle most of the time against the cost and risk of power shortages when there is a long drought that limits hydro-generation”		2011 result: 51% 2014 result: 62% 2017 result: 61% 2019 result: 62%
Overall improvement across a suite of statistics on efficient levels of reliable electricity supply**	Measures of security and reliability covering short-term service interruptions on the distribution network, transmission system reliability, resilience to emergency events (including dry years) and assessment of efficient investment in reliability	Overall improvement in suite of statistics on the efficiency of security and reliability levels	Achieved. There was a continued improvement in the suite of reliability statistics during 2018/19.

Notes

* Full results for each year are available on our website at ea.govt.nz/about-us/corporate-projects.

** The following suite of statistics will be reported in our Annual Reports:⁵

7. Pricing in scarcity events reflects opportunity cost, as measured by case-by-case analysis	The high prices in October 2018 were investigated as part of the undesirable trading situation (UTS) claim. Prices were found to reflect market fundamentals.
8. Effective management of dry years or emergency events, as measured by case-by-case analysis	The spring of 2018 was the subject of a UTS claim. The report on this claim contains the analysis of how the market managed this event.
9. Capacity and energy margins are within efficient bounds or are moving towards those bounds, as measured by the annual security assessment	Capacity and energy margins are moving towards the bounds set by the Board.
10. Investigation of reliability events does not identify systemic issues, as measured by case-by-case analysis	The Authority referred a formal complaint to the Rulings Panel in relation to the 2 March 2017 South Island system restoration event. The Rulings Panel will hear the complaint in late 2019.

⁵ See the glossary for explanations of these statistics. Detailed explanations, statistical information and analysis is contained in the latest Annual Report, available at ea.govt.nz/about-us/strategic-planning-and-reporting/annual-report.

Efficiency

HIGH-LEVEL RESULTS SOUGHT	HOW WE TRACK RESULTS	TARGET	RESULTS TO DATE (2018/19 ANNUAL REPORT)*
Widespread recognition by consumers that electricity markets and transmission and distribution arrangements are efficient	Perception surveys: Percentage of survey respondents with an opinion on the matter who rate the electricity industry as neutral or better against the statements:	Overall improvement in survey results since Authority intervention began in 2011	Perceptions of efficiency worsened in 2019 after a sustained period of improvement.
			“The New Zealand electricity market ensures that the right mix of power stations is built in time to meet growing demand for power” 2011 result: 43% 2014 result: 54% 2017 result: 56% 2019 result: 52%
	“The New Zealand electricity market ensures electricity is generated and supplied efficiently” 2011 result: 66% 2014 result: 72% 2017 result: 77% 2019 result: 66%		
Overall improvement across a suite of statistics on electricity system and market efficiency**	Measures relate to monitoring whether prices relate to costs at all times Measures will include the costs and benefits of operating the electricity system and markets	Overall improvement in suite of statistics on operational efficiency	Achieved. There was a continued improvement in the suite of efficiency statistics during 2018/19.

Notes

* Full results for each year are available on our website at this link [ea.govt.nz/about-us/corporate-projects](https://www.ea.govt.nz/about-us/corporate-projects).

** The following suite of statistics will be reported in our Annual Reports:⁶

11. Robust futures prices	Low hydro storage and an unplanned gas supply outage at Pohokura led to volatile hedge market prices and a widening of spreads for exchange traded instruments (ETIs). A UTS claim included concern at the drop-off in market making for ETIs. The hedge market prices and behaviour reflected scarce supply conditions at the time, but there is room for improvement. Consequently, the Authority added a new project to improve voluntary market making in the short term and to investigate options for more resilient market making arrangements in the longer term.
12. Dry year prices reflect storage levels, as assessed by case-by-case analysis	Low hydro storage and an unplanned gas supply outage at Pohokura led to high spot prices during October and November 2018. This period was the subject of a UTS claim. Spot prices during the period reflected scarce supply.
13. Exceptional prices are justified by underlying fundamentals, as assessed by case-by-case analysis	See item 12 above.
14. Reducing constrained-on compensation	Constrained-on costs have been falling since 2011.

⁶ See the glossary for explanations of these statistics. Detailed explanations, statistical information and analysis is contained in the latest Annual Report, available at [ea.govt.nz/about-us/strategic-planning-and-reporting/annual-report/](https://www.ea.govt.nz/about-us/strategic-planning-and-reporting/annual-report/)

ORGANISATIONAL CAPABILITY

The organisation and investment areas have changed progressively over the past 10 years.

We expect the organisation to continue to evolve. As ever, our staff are passionate about the contribution we make to New Zealanders' lives and our country as a whole.

In addition to our ambitions for the sector towards which we will invest our effort, our strategy identifies the strategic capabilities we will rely on for successful delivery.



STRATEGIC CAPABILITIES

Listening and empathy

To deliver value and the best outcomes for the breadth of different electricity consumers, we need to understand who they are and their experiences, perspectives and needs. This understanding can only come from increased curiosity and genuine, open listening. We also need to exercise this capability with the regulated community. We will adopt a customer-centred approach to ensure the regulatory platform better serves people, businesses and the nation.

Purposeful connection

To grow trust and confidence, build knowledge and progress the electricity sector, we will deepen our connection to those we serve, Māori, the regulated community and agencies we must collaborate with and can learn from. We also need to broaden our networks internationally. We will be clear about who we engage with and why and actively build relationships. We need to listen and demonstrate we've heard, and to better communicate sector success.

Inspired culture

To achieve great outcomes for New Zealand, our internal talent needs to grow and thrive. We will invest in our culture, diversity and capability and provide opportunities for collaboration and progression so our people feel fulfilled and are empowered to do their best work. Their valued experience and commitment are the foundation from which the Authority will change, grow its professional maturity and enhance the craft of our regulation.

Transformative mindset

To meet the pace of change and drive innovation, we need to be creative, fast, bold, practical and flexible – choosing processes and methodologies that support responsiveness, agility and better solutions. We will improve our governance, be more pragmatic, experiment, iterate and scan horizons – both within and outside energy, domestically and internationally.

Impactful delivery

To achieve our intended outcomes, we need to be more efficient and strategic – prioritising and aligning our efforts and using more streamlined, transparent processes. We will invest in systems and tools for success, better leverage internal knowledge, resources, data and technology and apply a continuous improvement mindset to all our activities.

ASSETS AND PROCESSES

We strive to ensure that our systems, tools and processes lead to improved quality, efficiency and productivity and support international best practice.

MARKET SERVICES PROVISION

The Authority's intangible assets are comprised of acquired software, systems and associated licences used by the service providers to facilitate the operation of the electricity markets the most significant of which is the software used in the operation of the electricity market. At 30 June 2019, this software had a cost of \$26.717 million, net carrying value of \$4.045 million and an estimated remaining useful life of between three and five years.

These market services are provided under contract by NZX,⁷ Jade⁸ and Energy Market Services.⁹ An important feature of the contracts is that the service providers ensure the systems function, operate and perform on a continuing basis so that the services are delivered in accordance with performance standards. This includes providing the hardware and other supporting infrastructure.

REAL-TIME COORDINATION OF THE ELECTRICITY SYSTEM

This is a critical function for the Authority, carried out under contract by the system operator Transpower New Zealand Limited (Transpower). Unlike the market services, the Authority does not own the system operator assets. The Authority does, however, work closely with the system operator in the development of its capital plan. The Authority will begin negotiations on a new service provider agreement with the system operator in Q2 2020.

INFORMATION SYSTEMS

We pursue a programme of continuous development to increase the effectiveness of our information systems. This, combined with on-going release of information and data, supports improved Authority and stakeholder decision making.

Our dedicated Electricity Market Information (EMI) website includes extensive sets of data, market performance metrics, APIs, analytical tools and a forum for analysts to ask questions, share and interact.¹⁰

⁷ NZX Limited is the operator of the New Zealand stock exchange.

⁸ Jade Software Corporation Limited is a specialist technology and research development organisation.

⁹ Energy Market Services is a commercial business group within Transpower.

¹⁰ The Electricity Market Information (EMI) website is available at emi.ea.govt.nz.

GOVERNANCE, ADVICE AND SERVICE PROVIDERS

AUTHORITY BOARD

Electricity Authority Board members are electricity consumers and represent the interests of consumers. Following a public call for nominations, they are appointed by the Governor-General on the recommendation of the Minister.

There are between five and seven members on the Authority Board. Members hold office for a term of up to five years and may be reappointed.

Details about membership of the Authority Board, Chief Executive and management team are available on our website at ea.govt.nz/about-us/who-we-are.

BOARD COMMITTEES

There are three Board committees.

- The **Audit and Finance Committee** advises on the quality and integrity of the Authority's financial reporting, including managing the relationship with the external auditor. It also considers whether appropriate governance, policies and operating processes are in place to identify and manage risk and oversees and assesses the internal audit process.
- The **Compliance Committee** makes decisions on alleged breaches of the Act, various regulations and the Code. It determines appropriate enforcement responses and whether settlements should be approved or further investigation undertaken and makes recommendations to the Board regarding the laying of formal complaints with the Rulings Panel and instigating prosecutions
- The **System Operations Committee** oversees the performance monitoring of the system operator, identifies any emerging system security risks and addresses any other matters relating to the system operator's obligations under the Code.

RULINGS PANEL

The Rulings Panel is an industry dispute resolution and disciplinary body established under the Electricity Governance Regulations 2003 and continued by the Act, which sets out its membership, functions and funding arrangements. The Governor-General appoints panel members.

The Rulings Panel's functions include assisting with enforcing the Code by dealing with complaints about Code breaches, hearing appeals against certain decisions made under the Code and resolving certain disputes relating to the Code. If a complaint about a Code breach is upheld, the Rulings Panel can make a range of orders including imposing penalties, awarding costs or compensation, issuing suspension or termination orders and recommending Code changes.

Information about the Rulings Panel is available at ea.govt.nz/code-and-compliance/rulings-panel.

SECURITY AND RELIABILITY COUNCIL AND OTHER ADVISORY GROUPS

The Act sets requirements to establish the Security and Reliability Council and other advisory groups. The Act also requires the Authority to publish a charter on advisory groups. The charter was first published in February 2011 and most recently updated in January 2017.

- The **Security and Reliability Council** was established in March 2011. It provides independent advice to the Authority on the performance of the electricity system and the system operator and on reliability of supply issues.
- The **Innovation and Participation Advisory Group** (IPAG) and the **Market Development Advisory Group** (MDAG) are tasked with providing advice and recommendations to the Authority on the development of the Code and market facilitation measures. The IPAG focuses on issues specifically related to new technologies and business models, and consumer participation. The MDAG focuses on further evolving the 'machinery' of the electricity market.

From time to time, other advisory and technical groups have been established. Information about these groups is available in the Annual Report and on our website.

Information about the Security and Reliability Council, advisory groups and technical groups is available on our website at ea.govt.nz/development/advisory-technical-groups.

SERVICE PROVIDERS

The **system operator** is responsible for the real-time operation of the power system, including scheduling and dispatching electricity, in a manner that avoids undue fluctuations in frequency and voltage on the transmission grid.¹¹

The **reconciliation manager** allocates volumes of electricity to generators and purchasers. It uses metering information supplied by participants and calculates unaccounted for electricity.

The **pricing manager** calculates and publishes final prices, which are used by the clearing manager to calculate invoices.

The **clearing manager** invoices and settles physical electricity sales and purchases identified by the reconciliation manager, ancillary service payments and any financial hedges required to be taken into account in the prudential calculation. It also maintains prudential security requirements.

The **FTR manager** runs regular auctions for financial transmission rights, which are a locational hedge product.¹²

INFORMATION SYSTEMS

The **wholesale information and trading system** (WITS) is used to transfer information among participants, especially the uploading of bids and offers.

The registry is a database that identifies every customer point of electricity connection to a local or embedded network. It enables customer switching between traders and contains key information for the reconciliation process.

¹¹ System operator responsibilities include giving instructions as to when and how much electricity to generate (i.e. it dispatches generation) so that injections of electricity into the system match uptake by electricity consumers at each moment in time. The system operator also publishes the generator dispatch schedules and is responsible for the operation of security of supply forecasting, monitoring and emergency management functions.

¹² For more information on service provider contracts, which include detailed performance specifications, and reports, see the operations section of our website at ea.govt.nz/operations.

GLOSSARY AND ABBREVIATIONS

A detailed glossary is available at ea.govt.nz/glossary.

Act	Electricity Industry Act 2010.
Ancillary services	The system operator contracts individual participants to provide five services essential to maintaining the common quality of electricity supply. These ancillary services are black start, over-frequency reserve, frequency-keeping reserve, instantaneous reserve and voltage support.
Authority	Electricity Authority.
Black start	Some generators have the ability to black start, meaning they can restart their generation plant with no electrical input if the system has blacked out. Generators without this capability require power from the grid to restart their generating plant.
Capability	What an organisation needs in terms of access to leadership, people, culture, relationships, processes and technology, physical assets and structures to efficiently deliver the goods and services required to achieve the results sought by the Crown entity, whether those results are set by reference to government policy or by statute.
Code	Electricity Industry Participation Code 2010.
Common quality	Common quality refers to those processes and technical requirements placed on asset owners and the system operator that impact on power system quality such as the Code requirements for system frequency management, system event management and system voltage management.
Consumer	Any person who is supplied with electricity other than for resupply.
CR4	Concentration ratio (CR) of the top four generation-retailer companies (gentailers). The CR measures the sum of the market shares for the largest retailers – a higher number indicates a more concentrated market. We chose CR4, the sum of the market shares for the top four parent retail companies, because the market started with four large gentailers and CR4 will help identify how the structure has changed. It should be noted that these four gentailers are not the dominant players in every region.
Frequency keeping	The frequency of the New Zealand grid is normally maintained at 50 Hertz frequency and is the number of cycles per second. Frequency keeping refers to the process used to keep the frequency of the grid within its normal band. Frequency keeping power stations are used to increase or decrease generation within a set band to ensure that supply equals demand on a second-by-second basis.
FTR	Financial transmission right.
HHI	Herfindahl-Hirschman Index. HHI is a measure of market concentration, and the relationship with competition occurs because less-concentrated markets are likely to be more competitive. It is calculated as the sum of the squares of the market share of all participants.
Instantaneous reserves	Generation capacity and interruptible load that is made available to be used in the event of a sudden failure of a generating or transmission facility in order to maintain system frequency at 50 Hz. Fast instantaneous reserve is available within six seconds and must be able to operate for one minute. Sustained instantaneous reserve is available within 60 seconds and must be available for 15 minutes.

Glossary continued

MBIE	Ministry of Business, Innovation and Employment. MBIE is the policy adviser to Ministers on energy matters. MBIE also acts as the monitor for the Minister of Energy and Resources regarding the Electricity Authority.
Market facilitation measures	Actions that the Authority can take short of amending the Code or recommending changes to regulations. This can include discussion with participants, education programmes, publication of guidelines and publication of model agreements.
Outcome, impact and output	Accountability terms used in the state sector that link the work we do with the results we are contributing to. <ul style="list-style-type: none"> • Outcome: a state or condition of society, the economy or the environment and includes a change in that state or condition. • Impact: the contribution made to an outcome by a specified set of outputs or actions or both. • Output: the goods or services that we supply. These are our functions as set out in the annual Statement of Performance Expectations.
Participant	A person or a person belonging to a class of persons identified in section 7 of the Electricity Industry Act 2010 as being a participant in the electricity industry. These include generators, Transpower, distributors, retailers, other lines owners, consumers directly connected to the national grid, buyers of electricity from the clearing manager and service providers.
Service providers	Parties contracted by the Authority to manage the electricity system (system operator) and market services, as described in Part 3 of the Code.
Voltage support	The ancillary service that injects reactive power into the system to boost voltage at the point of injection. Specific generation plant is contracted by the system operator to provide this service, when needed.

Publications and resources

- Electricity Authority website: ea.govt.nz
- Electricity Market Information website: emi.ea.govt.nz
- Interpretation of the Authority's statutory objective: ea.govt.nz/about-us/strategic-planning-and-reporting/foundation-documents
- Statement of Intent: ea.govt.nz/about-us/strategic-planning-and-reporting/statement-of-intent
- Statement of Performance Expectations: ea.govt.nz/about-us/strategic-planning-and-reporting/statement-of-performance-expectations
- Annual Report: ea.govt.nz/about-us/strategic-planning-and-reporting/annual-report
- Consultation charter: ea.govt.nz/about-us/strategic-planning-and-reporting/foundation-documents
- Charter about advisory groups: ea.govt.nz/about-us/strategic-planning-and-reporting/foundation-documents
- Electricity in New Zealand: ea.govt.nz/about-us/media-and-publications/electricity-nz



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