ELECTRICITY AUTHORITY
TE MANA HIKO

Annual Report 2021/22

For the period 01 July 2021 to 30 June 2022

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PURPOSE OF THIS ANNUAL REPORT

This annual report is the Electricity Authority's formal report to Parliament on its results for the period 1 July 2021 to 30 June 2022.

The report contains information required by sections 150–155 of the Crown Entities Act 2004. Further information about the Authority and its work is available from: www.ea.govt.nz

GLOSSARY AND ABBREVIATIONS

There are many technical terms used in the electricity sector and some of these occur in this report. To assist readers, a glossary and list of abbreviations used in this report is provided at the end of the report. In addition, the Authority has a glossary of common electricity industry terms on its website at www.ea.govt.nz/glossary/

AT A GLANCE

ANNUAL REPORT ON A PAGE

Our purpose

We are the kaitiaki of electricity. Our purpose is to enhance New Zealanders' lives, prosperity and environment through electricity.

Our ambitions

LOW-EMISSIONS ENERGY

We want low-emissions energy to electrify the economy.

CONSUMER CENTRICITY

We want consumer centricity to guide regulation and the industry.

TRUST AND CONFIDENCE

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

THRIVING COMPETITION

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

INNOVATION FLOURISHING

We want to see innovation flourishing.

What we did: case studies

LOW-EMISSIONS ROADMAP

We are focused on making sure that New Zealand can make the transition to low-emissions energy without compromising our future electricity security and reliability. PAGE 21

COMPLIANCE STRATEGY

We implemented a new strategy outlining our compliance approach for participants operating in the electricity sector – helping to ensure all participants play by the rules. PAGE 26

9 AUGUST 2021

On one of the coldest nights of the year, about 34,000 consumers had their electricity cut without warning. We immediately launched a two-phase review into the outages and are working closely with Transpower to give New Zealanders confidence that they can rely on a secure and reliable electricity system. PAGE 27

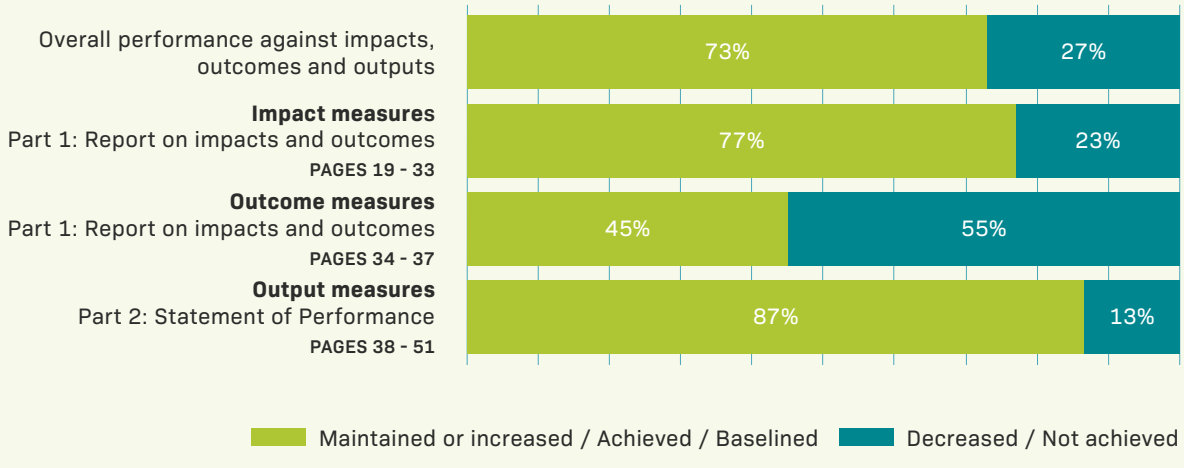
WHOLESALE MARKET REVIEW

We carried out a detailed monitoring review into the wholesale electricity markets, to address high spot market prices seen from 2018 to 2021. PAGE 30

REAL-TIME PRICING

We're driving technological change for a simpler, more responsive system. With real-time pricing, consumers will be able to adjust their own electricity consumption in response to changes in pricing with confidence. PAGE 33

How we performed: high-level measure summary



OUR YEAR IN REVIEW: SIGNIFICANT MILESTONES

The Authority delivered against a large number of workstreams and initiatives in 2021/22. Below is a summary of some of the most significant milestones we met.

2021

JULY

- Launched consumer care guidelines
- Code amendment: allowing energy storage systems to participate in the reserves market

SEPTEMBER

- Consultation: distribution pricing reform
- 9 August response: review of 9 August event phase one completed
- Cabinet approval: funding to implement a commercial market-making scheme

NOVEMBER

- Code amendment: Code Review Programme
- Approval of the system operator's AUFLS technical requirements

AUGUST

- 2019 UTS Actions to Correct published

OCTOBER

- Consultation: new TPM
- Consultation: setting the Authority's compliance strategy
- Consultation: review of competition in the wholesale market and issues paper on inefficient price discrimination

DECEMBER

- 9 August response: preliminary decision – 9 August UTS claim
- Energy Transition Roadmap released
- 2021 Dry Year Event review published

2022

FEBRUARY

- 100% renewable electricity supply project issues paper released

APRIL

- Decision: adopting new TPM
- 9 August response: review of 9 August event phase two completed
- 9 August response: formal complaint laid with the Rulings Panel for alleged breaches by the system operator

JUNE

- 9 August response: final decision – 9 August UTS claim
- Code amendment: real-time pricing
- Code amendment: TPM-related Code amendments

MARCH

- Consultation: hedge market enhancements
- 9 August response: investigation into alleged Genesis Energy Limited trading conduct breach discontinued

MAY

- Consultation: FTR market observations

BY THE NUMBERS

37
Peak number of parent companies active in the retail market.

230,821
views of the consumer section of ea.govt.nz.

45,198
visits to the EMI website, up 49% from 2020/21.

78%
of participants surveyed agreed the electricity system delivers a high level of reliability.

85%
of participants surveyed agreed there is a reliable supply of electricity each day.

123
compliance decisions made, up 16% from 2020/21.

39,108
GWh total electricity consumed at June 2022, down 1.8% from last year.

2,143,110
electricity consumers connected to an ICP as of June 2022.[1]

1,807,035
residential connections

198,185
commercial connections

86,355
agriculture, forestry, and fishing connections

51,534
industrial connections

77,626
monthly peak of NZ electricity futures and options contracts traded on the ASX exchange, a 39% increase from 2020/21's peak.

71%
of domestic consumers surveyed agreed they could find a power company that meets their needs.

1 Number of consumers based on ICP connections. Source: https://www.mbie.govt.nz/building-and-energy/energy-and-natural-resources/energy-statistics-and-modelling/energy-statistics/electricity-statistics/, accessed September 2022.

STATEMENT OF RESPONSIBILITY

The Board is responsible for the preparation of the Electricity Authority's financial statements and statement of performance, and for the judgements made in them.

It is responsible for any end-of-year performance information provided by the Electricity Authority under section 19A of the Public Finance Act 1989.

It has the responsibility for establishing and maintaining a system of internal control designed to provide reasonable assurance as to the integrity and reliability of financial and performance reporting.

In the Board's opinion, these financial statements and statement of performance fairly reflect the financial position and operations of the Electricity Authority for the year ended 30 June 2022.

Signed on behalf of the Board:

DR NICOLA (NICKI) CRAUFORD
Chair

Electricity Authority
8 November 2022

MARK SANDELIN
Audit and Finance Committee Chair

Electricity Authority
8 November 2022

FROM THE BOARD

We are pleased to present the Electricity Authority's twelfth *Annual Report*

This past year has seen the world continuing to navigate significant uncertainty and challenges across all aspects of life. The world continues to respond and manage through the COVID-19 pandemic; increasing weather and climate change events; and the impact of the Russia - Ukraine conflict, all of which influence energy price escalation and have seen communities experience tightening global supplies and rising prices on all commodities.

As kaitiaki of the sector, the Authority's regulatory stewardship aims to protect and progress the strengths of New Zealand's electricity system for generations to come and ensure industry participation continually builds new strengths and delivers the positive outcomes for consumers that Parliament expects of us. On a practical level, this means we make and enforce the rules for the industry. But like all regulators, we are not immune to the wider environment in which we regulate.

Stewardship of the sector is even more crucial as we steer through the next few years. The Government's Emissions Reduction Plan seeks to support a cross-agency, cross-sector approach. Mass electrification, retirement of thermal generation, a volatile climate and a pandemic puts an unprecedented level of pressure on the system. There will be more challenges during the next few years, which will require an all-of-system response – preparedness and clarity of expectations will be critical.

The Authority will continue to put consumers front and centre of what we do and how we do it. We know when consumers are well informed, they are empowered to make good choices. We will continue our focus on market competition and ensuring regulatory settings deliver positive outcomes. Market competition is a key enabler to deliver a better energy future. The Authority is 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. The release of our review into competition in the wholesale market and the related issues paper triggered industry engagement on a number of observations and our continued focus on improvement.

Consumers should also be able to expect a secure and reliable electricity supply. The unprecedented 9 August 2021 event reminded us of the complexity of managing the fine balance of electricity supply and demand while highlighting the importance of simple, quick and easy-to-access communication for those impacted. Lessons were learned, improvements have been made and we will continue to work with Transpower and the industry to avoid another similar event.

The transition to a net zero emissions future will continue to challenge the sector. The Authority has a critical role to play in the transition to the legislated target of net zero emissions by 2050, and the more immediate Government target for 50 percent of all energy consumption to come from renewable sources by 2035. The Authority has developed a transition roadmap that summarises all the initiatives under way to support the transition to a low-emissions future. This includes understanding how the wholesale market will operate under 100 percent renewables; the impact on future security and resilience; harnessing the role of distribution in the transition; and promoting a stable investment environment. Through all of this the Authority will continue with the objectives of providing regulatory certainty and making sure the transition delivers positive outcomes for New Zealanders.

The Authority remains focused on both the current environment and the future to ensure a reliable system that cultivates trust and confidence amongst consumers. As at 30 June 2022, the Electricity Industry Amendment Bill was still under consideration, with Royal assent provided on 31 August 2022. The legislative changes in the Electricity Industry Amendment Act 2022 support the Authority's focus. Changes include providing clearer powers to protect the interests of small electricity consumers in relation to their electricity supply, and increasing the Authority's ability to hold industry participants to account.

The Authority will continue to work with the new Consumer Advocacy Council and the Energy Hardship Reference Panel, acknowledging the importance of these groups and sharing our knowledge and experience to support improved outcomes, particularly for our most vulnerable consumers.

We would also like to take this opportunity to farewell and thank James Stevenson-Wallace for his work as Chief Executive over the past four years. James has guided the Authority through a period of change in the electricity sector as we transition to a low-emissions energy system and helped put the consumer at the heart of our decision-making. He leaves the Authority well-placed to ensure the electricity system provides the platform for the country to achieve its aspirations for enhanced quality of life, prosperity and environment.

We look forward to another busy year working together with Authority staff, the sector and other agencies as we drive improvement on behalf of New Zealand consumers.

THE BOARD

The Board is responsible for promoting a competitive, reliable and efficient electricity industry for the long-term benefit of consumers.[2]

For more information about the Authority Board, please see Part 3: Corporate Governance.

DR NICOLA (NICKI) CRAUFORD
Chair

LANA STOCKMAN
Board Member

MARK SANDELIN
Board Member

ALLAN DAWSON
Board Member

SANDRA GAMBLE
Board Member

2 The Electricity Industry Amendment Act 2022 received Royal assent on 31 August 2022. This makes various changes including providing an additional objective for the Authority relating to consumer protection for domestic and small business consumers in relation to the supply of electricity.

CHIEF EXECUTIVE'S REPORT

The Electricity Authority is kaitiaki, or guardian, of the electricity system in Aotearoa. This means ensuring the electricity industry is competitive and operated efficiently, that there is reliable supply, and that consumers benefit from that kaitiakitanga.

The past year has seen the team at the Authority work tirelessly to deliver on that promise, navigating the ongoing COVID-19 pandemic, the climate emergency, and the conflict in Ukraine, and the impact of those on supply, resourcing, and future planning. Through it all, we have focused on delivering regulatory certainty for all New Zealanders. I thank the team for its performance in another challenging year.

I am particularly grateful to my team and the entire electricity industry for their work in addressing what went wrong on 9 August last year, one of the coldest days in 2021, when 34,000 customers were left without power, some for more than two hours. This was an unacceptable event which highlighted shortcomings in the system and the system operator's management of the challenging circumstances, and has been the focus of much of our work in the past year.

Using our statutory powers, we initiated a two-phase review of the electricity outages, including the performance of the system operator. The first part of the review sought immediate assurance that any systemic and process issues associated with the system operator's way of managing demand and communications had been addressed. We discovered issues with the system operator's tools and processes (including the way demand allocation was calculated) and in its processes around communicating with industry participants. The second part of the review focused on what lessons the Authority, lines companies, the system operator, generators, retailers, and direct connect consumers could learn, to avoid such an event happening again.

Alongside our review, the Ministry of Business, Innovation and Employment undertook an investigation into the electricity supply interruptions on 9 August. We are progressing all recommendations and acknowledge that, while the work in response to the grid emergency has been resource intensive, it has been critical for rebuilding trust and confidence in the industry for consumers and stakeholders alike.

Despite this unexpected body of work, I am proud to report the Authority has continued progressing its work to transition Aotearoa to a low-emissions energy system. Electricity markets worldwide, including New Zealand's, were designed on the assumption that a proportion of generation is fueled by fossil fuels. The Authority's Energy Transition Roadmap will support the sector's transition to 50 percent renewable energy consumption by ensuring it is as efficient as possible while maintaining energy security, system adaptability, and affordable electricity for consumers. The Future Security and Resilience project is developing a system that will continue to be both reliable and secure in the future, while the Market Development Advisory Group is investigating how the wholesale electricity market might operate with an electricity supply that is 100 percent renewable. Additionally, distribution companies have an important role to play in reinforcing the importance of the demand response in the transition to a low-emissions energy system, and the Authority is working to ensure the future security and resilience of distribution networks in the coming decades.

I am pleased to note that the new transmission pricing methodology (TPM) will come into effect on 1 April 2023, after much work consulting and designing it. Transmission pricing costs New Zealanders $800 million each year, and it influences how we invest in and use the national grid. It is essential that transmission charges are efficient, and more closely reflect the actual cost of delivering electricity to all consumers, from households to large industrial customers. The new TPM better positions New Zealand to transition to a low-emissions economy by ensuring the best use of existing and future electricity infrastructure.

Work has progressed on the review of competition in the wholesale market announced in March 2021. This was triggered by increased volatility in the wholesale electricity market, sustained elevated spot prices, and a new four-year electricity contract for the New Zealand Aluminium Smelter at Tiwai Point. The Authority observed during work on the review that the latest electricity contract for the smelter had the potential to result in inefficient outcomes for all consumers – an average household could potentially be paying up to an extra $200 in electricity per year. This ongoing review is important as the Authority looks at how current market settings will support an efficient transition to a low-emissions economy.

One of our strategic ambitions is consumer centricity – putting consumers front and centre of what we do and how we do it. As such I welcome the proposed amendments to the Electricity Industry Act 2010 (Act), which, among other changes, includes an additional statutory objective for the Authority to protect the interests of domestic consumers and small business consumers in relation to their electricity supply. The amendment was introduced to the House in September 2021, and was enacted in the 2022/23 financial year. The changes to the Act will enhance our ability to protect, progress and strengthen New Zealand's electricity system for generations to come.

This year, the Authority farewelled three members of the Senior Leadership Team: Chief Strategy Officer, James Tipping, Director Communications and Engagement, Sally Aitken and Director Network Pricing, Rob Bernau. I thank them all for their contribution to the Authority.

The Authority continues to adapt our operating model to ensure it has the right structure and capabilities in place to deliver effectively against its five strategic ambitions for the sector: consumer centricity; trust and confidence; low-emissions energy; thriving competition; and innovation flourishing. I am proud of how the organisation has developed over the past year. We are well placed to deal with the continued challenges the future holds.

James Stevenson-Wallace

Chief Executive
7 October 2022

POST 30 JUNE 2022 DEVELOPMENTS

In July 2022 I resigned as Chief Executive of the Electricity Authority to take on a new challenge as Chief Executive of Landcare Research in October 2022.

It has been a privilege to lead the Authority for four years. During this time we have begun to pivot from promoting strong, competitive markets to ensuring the Authority adapts to a rapidly changing world. I am especially proud of focusing the Authority's attention on the major issues facing the future of the electricity system, whilst maintaining vigilance over the current state. I believe the ongoing work of the review into competition in the wholesale electricity market will produce lasting benefits for consumers.

SENIOR LEADERSHIP TEAM 2021/22

JAMES STEVENSON-WALLACE
Chief Executive

JOEY AU
Chief Strategy Officer

RICHARD EGLINTON
Chief Operating Officer

ROB BERNAU
Director, Network Pricing

SARAH GILLIES
General Manager, Legal, Monitoring and Compliance

SALLY AITKEN
Director, Communications and Engagement

ANDREW (ANDY) DOUBE
General Manager, Market Policy

ABOUT THE AUTHORITY

Who we are

The Electricity Authority is an independent Crown entity responsible for overseeing and regulating the New Zealand electricity market.

We regulate the electricity market by developing and setting the market rules, enforcing and administering them and monitoring the market's performance. We also place a strong emphasis on voluntary market facilitation measures.

The Electricity Authority was established on 1 November 2010 under the Electricity Industry Act 2010, after a ministerial review in 2009 identified the need to better manage hydro storage during extended periods of dry weather and to improve competition in the electricity markets, especially the retail market.

What we do

Our role is to regulate the New Zealand electricity market.

We develop, administer and enforce the market rules that govern nearly every aspect of New Zealand's electricity industry including generation, transmission, system operation, security of supply, market arrangements, metering, distribution and retail.

We contract service providers to operate the electricity market and system.

We analyse and monitor the performance of the market and the electricity industry and make the information available on our Electricity Market Information (EMI) website.

We help develop the industry through education, guidelines, information and model arrangements.

Our day-to-day work focuses on addressing key questions that affect the long-term benefit of electricity consumers.

STRATEGIC FRAMEWORK

In our *Statement of Intent 2021-2025 (SOI)* we set out the Authority's strategic framework, along with impact measures and targets for our long-term strategic intentions.

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 an electrified low-emissions economy.

Our integrated framework sets out five strategic ambitions for the sector that guide the prioritisation of our work supported by five key strategic capabilities in which we invest for success.

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.

The Authority first reported on this framework in 2020/21.

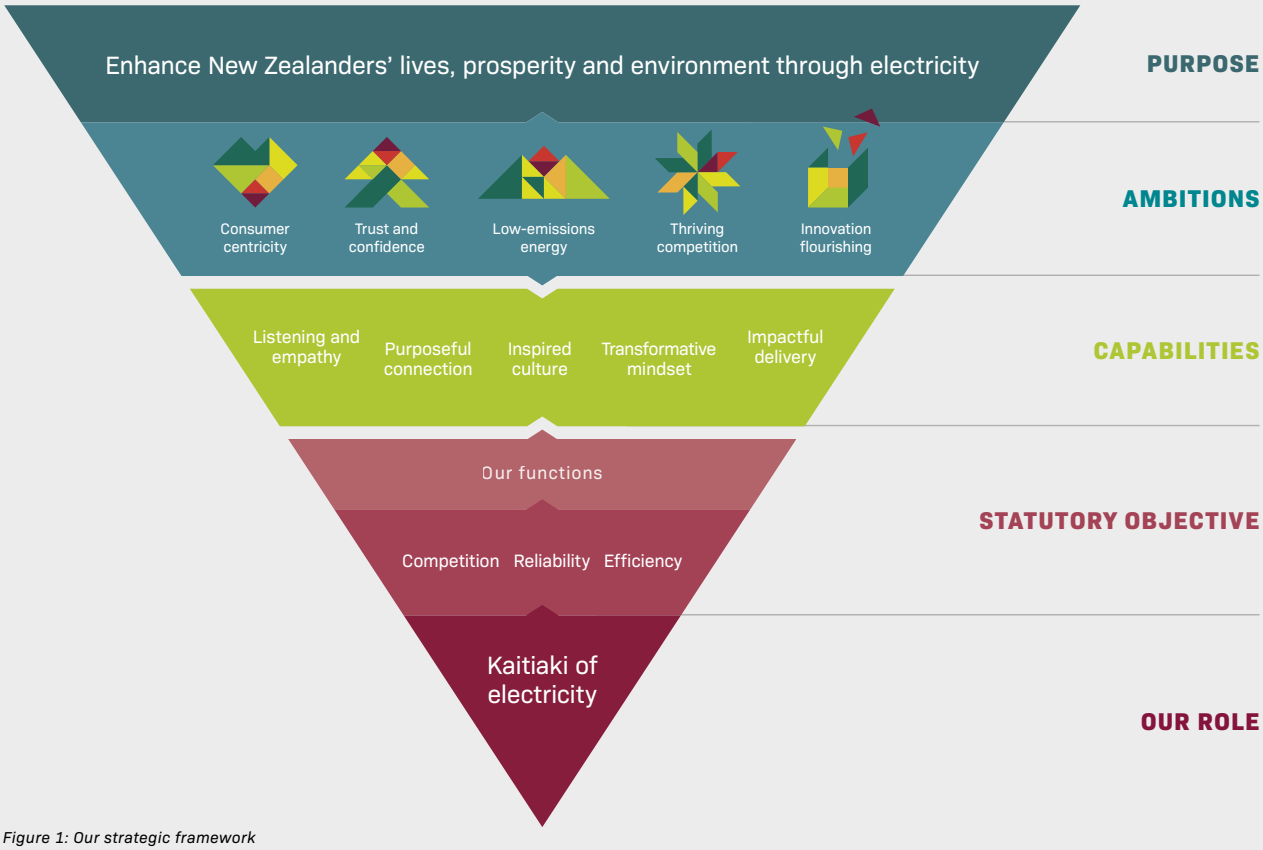


Figure 1: Our strategic framework

WE ARE THE KAITIAKI OF ELECTRICITY.

OUR PURPOSE IS TO ENHANCE NEW ZEALANDERS' LIVES, PROSPERITY AND ENVIRONMENT THROUGH ELECTRICITY.

Part One

REPORT ON IMPACTS AND OUTCOMES

STRATEGIC AMBITIONS AND STATUTORY OBJECTIVE

Strategic ambitions – the impacts we have

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

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 want **low-emissions energy** to electrify the economy.
- We want **consumer centricity** to guide regulation and the industry.
- 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**.

We use impact measures to track how we are performing in relation to our ambitions.

Reporting on impact measures includes a mix of statistical analysis and qualitative assessments. We use the data that we collect throughout the year, independent assessments and reviews, and perception surveys to understand our progress against the ambitions.[3]

The 2020/21 financial year was the first time we measured our results against the impact measures for each ambition. Going forward, we will use the 2020/21 results as our baseline to measure progress over time. Due to the long-term nature of our ambitions, it may take several years for measurable change or trends to become clear.

Statutory objective – the outcomes we achieve

The Electricity Industry Act 2010 (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.[4]

We use outcome measures for Competition, Reliability and Efficiency to see how successful our work has been at achieving our statutory objective. Progress is measured through quantitative metrics like statistics, as well as qualitative data collected through surveys of both consumers and industry participants.

The measurement of these outcomes is complex, with many influencing factors. Cause and effect relationships between our work and measurable change in electricity markets is not always straightforward, and it can take several years for change to become clear. Factors outside the control of the Authority can also have a major influence, causing variations in the results from year to year.

Our outcome measures are designed to be analysed over the medium- to long-term. As such, some results may cover multiple years, rather than just the given financial year. In 2020/21 we carried out a review of our survey-based measures, and this report marks the second time the results of the new surveys are reported. The 2020/21 survey results act as a baseline to measure progress made in 2021/22, however it will take several years to see any long-term trends developing.

Within this section is a summary of progress to date against the competition, reliability and efficiency parts of our statutory objective. Appendix A includes more detailed trend information.

3 Final reports of the AKR participant and consumer surveys and the Martin Jenkins independent assessments are available on our website: https://www.ea.govt.nz/about-us/corporate-projects/202122-planning-and-reporting/

4 The Electricity Industry Amendment Act 2022 received Royal assent on 31 August 2022. The additional statutory objective to protect the interests of domestic and small business consumers in relation to their supply of electricity will come into effect in 2022/23.

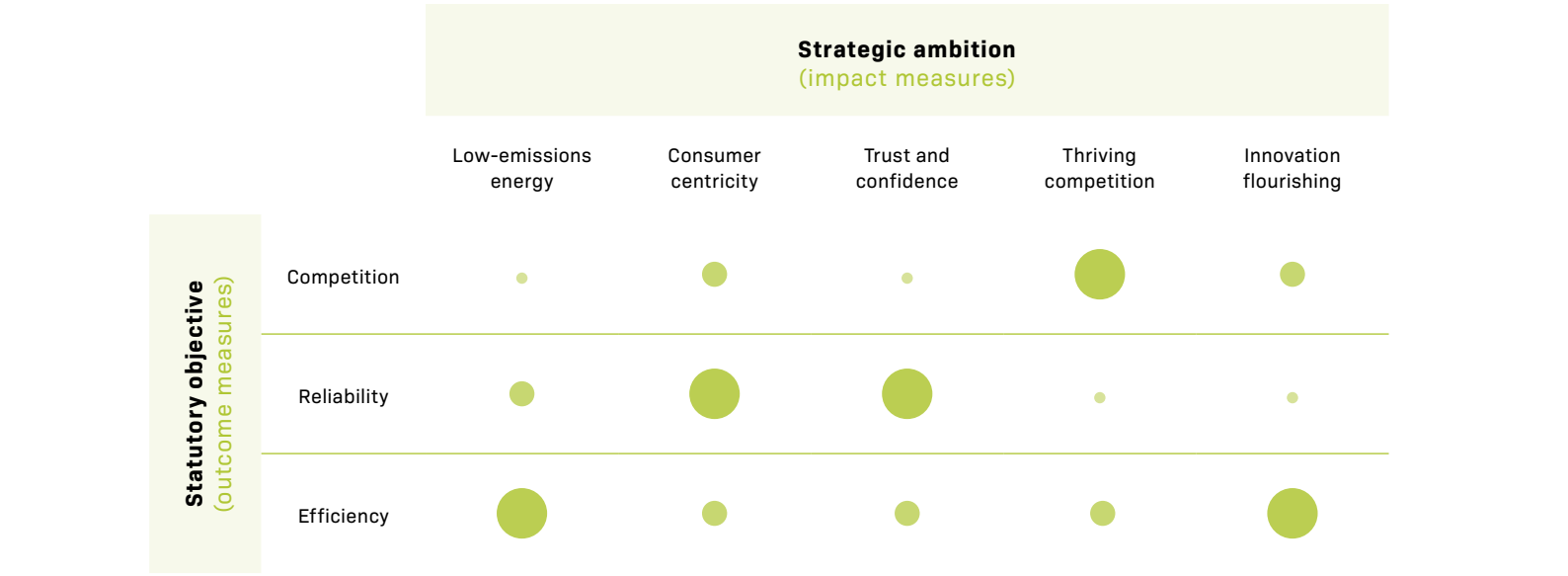
How our outcomes align with our strategic ambitions

Our statutory objective is linked to our strategic ambitions. We use Competition, Reliability and Efficiency together to drive the success of our ambitions.

We use a holistic system-based approach towards achieving our ambitions and outcomes, highlighting how the two work together to achieve our purpose. Our approach means that the outcome measures for our statutory objective also contribute to our strategic ambitions. However, while they contribute to the ambitions, outcome measures are not used to directly measure progress against a given ambition – this is measured with impact measures.

The table below summarises how our strategic ambitions align to our statutory objective. Each ambition has a primary relationship to a part of our objective and may also have a secondary or tertiary relationship. The circle sizes indicate the level of relationship between an ambition and part of our objective.

We go into further detail on how our outcomes and ambitions work together in our *Statement of Intent 2021-2025*.



MEASURING OUR IMPACT

Low-emissions energy

Enabling the transition to a low-emissions energy system is a focus for the Authority.

Electrification of heat and transport, and increases in renewable generation are key enablers in the transition to a low-emissions economy. The required level of investment in new generation will be significant, as are the opportunities for innovation and consumers' participation to help drive the transition.

We are working hard to ensure that the transition occurs efficiently over the coming decades, and that New Zealanders have trust and confidence in the ability of the system to remain affordable and reliable as it carries a greater responsibility for New Zealand's energy needs.

In 2021/22 we have continued to implement key projects to promote a stable investment environment with robust rules and clear price signals, including real-time pricing (RTP) and our April 2022 decision on the transmission pricing methodology review. We also released our Energy Transition Roadmap, which details our programme of work designed to address the key questions and critical issues surrounding the transition.

Impact	Measure	Desired trend	2020/21 result	2021/22 result
Our electricity market settings enable an efficient transition to reliable low-emissions energy in New Zealand	Improved participant confidence in settings to facilitate efficient transition	Increasing	37%	**Not achieved. 33%** of participants surveyed agreed that market settings will support an efficient transition.
	Improved participant confidence in reliability as NZ transitions to low-emissions energy	Increasing	48%	**Achieved. 52%** of participants surveyed agreed that the electricity system will maintain reliability through the transition.
	Assessment of the ability of market settings to facilitate an efficient transition to low-emissions energy	Increasing	New measure introduced in 2021/22	An independent assessment rated **4.2 out of 5** for the Authority's impact on enabling an efficient transition to reliable low-emissions energy.
Network and market price signals support the lowest overall cost to consumers	Level of implementation of cost-reflective network prices, transmission pricing and real-time pricing	Increasing	Network pricing average score: 3.0 out of 5. TPM is on track. RTP project is on track.	**Achieved. Network pricing:** annual scorecard assessments were on hold in 2021/22 to allow distributors time to implement updated guidance in the Distribution Practice Note. However, approximately 70% of distributors have moved towards more cost-reflective pricing in their pricing methodologies and roadmaps. **Transmission pricing:** implementation of the new TPM is on track. **Real-time pricing (RTP)**: progress of implementation of the RTP project is on track.
A suite of statistics shows overall improvement*	Overall improvement in the following statistics: ▪ Increased occurrence of demand bids setting spot prices ▪ Capacity and energy margins are within efficient bounds or are moving towards those bounds, as measured by the annual security assessment ▪ Investigation of reliability events does not identify systemic issues, as measured by case-by-case analysis	Increasing	New measure introduced in 2021/22	**Two of the three** statistics improved or maintained: ▪ To date, there have been no dispatchable demand bids to set spot prices. ▪ Capacity and energy margins are within the bounds set by the Board. ▪ Investigation of the 9 August 2021 event has highlighted issues that are being addressed.

* These statistics are also used to measure against one or more of our outcomes: Competition, Reliability, Efficiency.

Related outcome measures	Desired trend	High level result
Improved participant perceptions of the competitiveness in electricity markets	Increasing	Achieved
Improved participant perceptions on the efficiency of supply reliability	Increasing	Maintained
Overall improvement across a suite of statistics on efficient levels of reliable electricity supply	Improving	Not achieved
Improved participant perceptions of the efficiency in electricity markets and transmission and distribution arrangements	Increasing	Achieved
Overall improvement across a suite of statistics on electricity system and market efficiency	Improving	Achieved

Further details on outcome measure results are included later in this section.

The Authority is continuing to implement the mechanisms to create network and market price signals that will support the lowest overall cost to consumers. The decision to incorporate the new transmission pricing methodology (TPM) into the Code in April 2022 was a significant achievement this year. We are now supporting TPM implementation. In June 2022, the Authority made three Code changes to support TPM implementation and consulted on a further amendment. We also met the second software milestone for the implementation of RTP in March 2022 and are on track to meet the third milestone (due in November 2022).

While the Authority did not undertake formal distribution pricing scorecard assessments (network pricing) this year, approximately 70 percent of distributors have moved towards more cost-reflective pricing in their pricing methodologies and roadmaps. Around 20 percent are moving much faster than previously. The decision to delay scorecard assessments allows distributors time to implement the guidance in the updated Distribution Pricing Practice Note, published by the Authority in December 2021 and updated in May 2022.[5] Annual scorecard assessments will resume next year, reflecting the updated guidance.

When asked to rate their confidence in the electricity system's ability to maintain reliability through the transition to low-emissions energy, just over half of the participants surveyed expressed confidence in the Authority's ability to do so. This is slightly higher than in the previous year. Conversely, survey respondents were slightly less likely to have confidence in the market settings' ability to facilitate an efficient transition when compared with last year, with a third of those surveyed agreeing that it would. Survey respondents cited challenges around market settings, including the view that these settings were slow to respond to changes in operating environments, and the role various electricity markets (e.g. wholesale and futures markets) would play in the transition.[6]

This was also the first year the Authority commissioned an independent assessment of the ability of market settings to facilitate the transition. The assessment highlighted the balance between our ambition to support an efficient transition to low-emissions energy and our statutory objective to promote competition and efficiency for the long-term benefit of consumers. It also found the consideration of options under our statutory powers to be an area of strength for the Authority. The results of this assessment will be used to compare against future performance.

5 https://www.ea.govt.nz/development/work-programme/pricing-cost-allocation/distribution-pricing-review

6 Full survey reports and the Authority response to the results are available on the Authority website: https://www.ea.govt.nz/about-us/corporate-projects/202021-planning-and-reporting

Case study

LOW-EMISSIONS ROADMAP

Electrification of New Zealand's heat and transport, and increasing low-carbon electricity generation are key enablers in the transition to a low-emissions economy. Making more use of New Zealand's renewables advantage is essential in our transition to low-emissions energy.

Our role in the energy transition

New Zealand has a commitment to achieve net zero emissions by 2050, with the Government targeting 50 percent of the total energy consumption to come from renewable sources by 2035.

The Electricity Authority's purpose and strategic ambition is to enhance New Zealanders lives and prosperity through electricity and to facilitate the transformation and enhancement of our power system to low-emissions energy. Our job is to support generators, retailers, distributors, and the system operator to keep the lights on now and into the future.

The changes required and the speed at which these changes must be implemented is unprecedented in the industry. We are working in partnership with the wider electricity sector to navigate and direct a pathway through the challenging transition to come. We are focused on making sure that New Zealand can make the transition without compromising our future security and reliability.

Our transition roadmap

Across the Authority, we are working hard to understand the required evolution of the rules and regulations that enable the efficient operation of the electricity market, in the face of challenges to this transition. Our aim is to maximise the benefits to New Zealand consumers, leading to lower electricity prices and a secure and resilient electricity system for generations to come.

The Energy Transition Roadmap illustrates our activities and initiatives that will support an efficient transition to a low-emissions energy system by addressing key questions and critical issues. The roadmap is disaggregated into six key categories of work, which describes the critical and interrelated focus areas through the transition:

- Generation investment and reliability.
- System security and resilience.
- Distributed energy resource integration and investment.
- Efficient network infrastructure investment and operation.
- Monitoring, compliance and enforcement.
- Risk management through the transition.

No one can say what the future holds, however we know that the transformation will be spearheaded by decarbonisation across the power system and the wider economy. A move to decentralised resources and an increased use of smart technology will also be a key focus of the transformation.

Decarbonising the electricity sector involves drastically reducing our use of fossil fuels whilst increasing electrification of transportation and process heat. There will also be widespread adoption of developing technologies in homes and workplaces including Distributed Energy Resources, solar photovoltaics, smart appliances, and Energy Storage Systems. This will result in a rise in the level of digitisation and an increase in the volume of digital tools required to manage energy resources and resulting system complexity.

External factors such as climate change will have an impact on our transition. The increased occurrence of extreme weather events will test the electricity system's resilience, and increased risk from cyber-attacks will challenge the system's operational security and integrity.

The Electricity Authority has a critical role to play in the transition, by ensuring the balance between supply and demand continues whilst providing a robust regulatory framework to ensure the right investment occurs at the right time, in the right places in our system.

Consumer centricity

When decision-making by the industry and by regulators is centred around consumer outcomes, more diverse needs and expectations can be met.

Incorporating the consumer voice and an increased understanding of our wider operational environment in our work enables us to more deeply consider how our decisions will affect outcomes for all consumers – whether they be domestic, community, small, medium or large businesses, or industrial.

Given the ongoing challenges caused by the COVID-19 pandemic, in 2021/22 we enhanced the consumer care guidelines. The updated guidelines came into effect on 1 July 2021, and promote positive relationships between retailers and their customers, to improve experiences and outcomes for all domestic consumers.

Consumer centricity in energy system development drives competition and furthers consumers' ability to participate in energy markets. We continue to put consumers, and our understanding of their varied needs and perspectives, front and centre of what we do and how we do it.

Impact	Measure	Desired trend	2020/21 result	2021/22 result
Our decisions improve the way the sector meets consumers' needs	Improved participant perceptions in the electricity system's ability to meet consumers' ongoing needs	Increasing	44%	**Achieved. 48%** of participants surveyed agreed with the range of statements on the electricity system's ability to meet consumers' ongoing needs.
	Assessment of the quality of our decision-making processes on meeting consumers' needs	Increasing	3.9 out of 5	**Achieved.** An independent assessment rated **4.25 out of 5** for the impact of the Authority's decision-making on meeting consumers' needs.
	The customer transfer process works effectively in the event of retailer default	Improving	Achieved	**Achieved.** The trader default system has been used and has worked effectively.
Consumers are engaged with through our decision-making processes	Assessment of the quality of our engagement with consumers in our decision-making processes	Increasing	3.7 out of 5	**Achieved.** An independent assessment rated **4.1 out of 5** for the quality of engagement with consumers in our decision-making process.
	Increased consumer awareness of the impact of the Authority's role and the benefit our work has on them	Increasing	New measure introduced in 2021/22	The Authority appeared in 222 media items with 18 positive, 38 negative, and 166 neutral. 77 social media items were published across LinkedIn and Twitter. These had 54,424 impressions (views) with a 3.94% engagement rate.

Related outcome measures	Desired trend	High level result
Improved participant perceptions of the competitiveness in electricity markets	Increasing	Achieved
Improved consumer perceptions of the competitiveness of electricity markets	Increasing	Not achieved
Improved consumer perceptions of the reliability of electricity in New Zealand	Increasing	Not achieved
Overall improvement across a suite of statistics on efficient levels of reliable electricity supply	Improving	Not achieved
Improved participant perceptions of the efficiency in electricity markets and transmission and distribution arrangements	Increasing	Achieved
Improved consumer perceptions of the efficiency of electricity in New Zealand	Increasing	Not achieved

Further details on outcome measure results are included later in this section.

The Authority continues to put consumers at the heart of what we do. This is evident through improved results in assessments of the quality of our decision-making process, both in meeting consumers' varying needs and in our engagement with consumers in the decision-making process. The independent assessments identified areas where the Authority is doing well, including identifying impacted consumer groups and recognising the needs of, and potential impact on, these groups in the decision-making process.

Electricity industry participants have increased confidence in the system's ability to meet consumer needs. Almost half of the participants surveyed either agreed or strongly agreed with a range of statements on this subject. This year, for the first time, the trader default process was followed through to its conclusion, which saw a retailer's customers being transferred to alternative retailers. The process worked effectively and drew on lessons learned from previous trader default situations to continuously improve. During the process, we notified the affected customers directly and encouraged them to switch retailers using Powerswitch. At the end of the trader default process, the remaining customers were automatically switched to new retailers to ensure the continuation of their electricity supply. The competitive nature of the electricity market is such that retail participants enter and exit the market. What this exit demonstrated is that the Authority's process ensures that customers are protected, and no one is left without a retailer.

Media sentiment and social media engagement are used as a proxy for consumer awareness and understanding of the Authority, with the number of views reflecting how many people see what we promote over our social media channels. This is the first year these have been measured, and we would expect to see the engagement rate increase and the positive media sentiments maintain or increase over time.

Trust and confidence

Actively building trust and confidence in the industry and regulation through greater transparency, understanding and improved behaviours is increasingly important. 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.

We continue to develop rules that promote consumer choice, provide clear investment signals and treat participants equally. We monitor industry closely and act when required – in general favouring a largely non-interventionist, facilitative approach.

During the year, the Authority provided in-depth analysis and commentary, progressing and delivering key workstreams to address concerns around the efficiency of the electricity system and its ability to meet consumer demand in the face of constrained energy supply and dry-year risk.

In response to the 9 August event, we launched a two-phase review, with phase one seeking to provide immediate assurance to New Zealand consumers that any systemic and process issues were urgently corrected, while phase two was focused on lessons that could be learnt from the event.[7] We also considered alleged breaches of the Code in relation to the event, and an undesirable trading situation (UTS) claim.

Impact	Measure	Desired trend	2020/21 result	2021/22 result
The EA and our actions promote trust and confidence	Improved participant perceptions of trust and confidence in us and how we are fulfilling our role	Increasing	37%	**Not achieved. 23%** of participants surveyed agreed that they have confidence in the role the Authority plays as kaitiaki of the electricity sector.
	Assessment of the quality of material produced (e.g. EMI reports, thought pieces)	Increasing	4.2 out of 5	**Achieved.** An independent assessment rated **4.3 out of 5** for the quality of published materials to promote trust and confidence.
We are active regulators who enhance operational efficiency and reliability	Improved participant perceptions of reliability and operational efficiency	Increasing	63%	**Not achieved. 59%** of participants surveyed agreed with the range of statements on the electricity sector's reliability and operational efficiency.
	Market services are resilient to adverse events (as measured on a case-by-case basis)	Improving	Achieved	**Achieved.** Market services continue to be resilient to adverse events.
We improve compliance and sector conduct	Improved participant perceptions of the quality of our monitoring	Increasing	50%	**Achieved. 52%** of participants surveyed agreed with the range of statements on the quality of our monitoring.

7 The phase one report was published in September 2021, and the phase two report in April 2022. Both reports are available on the Authority website: https://www.ea.govt.nz/monitoring/enquiries-reviews-and-investigations/2021/electricity-authority-review-of-9-august-2021-event-under-the-electricity-industry-act-2010/

Impact	Measure	Desired trend	2020/21 result	2021/22 result
A suite of statistics shows overall improvement*	Overall improvement in the following statistics: ▪ Pricing in scarcity events reflects opportunity cost, as measured by case-by-case analysis ▪ Effective management of dry years or emergency events, as measured by case-by-case analysis ▪ Dry year prices reflect storage levels, as assessed by case-by-case analysis	Increasing	New measure introduced in 2021/22	**Two of three** statistics improved or maintained: ▪ Investigation into an alleged UTS on 9 August 2021 found the market worked as expected, with prices reflecting the value of foregone consumption. ▪ Investigation of the 9 August 2021 event has highlighted issues that are being addressed. ▪ High prices due to low inflows were seen in Winter 2022 and were impacted by falling output from the Pohokura gas field and high international coal prices.

* These statistics are also used to measure against one or more of our outcomes: Competition, Reliability, Efficiency.

Related outcome measures	Desired trend	High level result
Improved participant perceptions of the competitiveness in electricity markets	Increasing	Achieved
Improved participant perceptions on the efficiency of supply reliability	Increasing	Maintained
Improved participant perceptions of the balance between the cost and reliability trade-offs	Increasing	Maintained
Improved consumer perceptions of the reliability of electricity in New Zealand	Increasing	Not achieved
Overall improvement across a suite of statistics on efficient levels of reliable electricity supply	Improving	Not achieved
Improved participant perceptions of the efficiency in electricity markets and transmission and distribution arrangements	Increasing	Achieved
Improved consumer perceptions of the efficiency of electricity in New Zealand	Increasing	Not achieved
Overall improvement across a suite of statistics on electricity system and market efficiency	Improving	Achieved

Further details on outcome measure results are included later in this section.

The Authority continues to promote trust and confidence, both in us as kaitiaki of the electricity sector and the wider system in general. Trust and confidence in the role the Authority plays, as kaitiaki, was lower than in previous years, with almost a quarter of survey respondents agreeing that they had confidence in this, while a third reported feeling neutral on the matter. Lingering questions over the 9 August 2021 event, how the Authority holds participants to account, and limitations in our statutory powers were cited by respondents as impacting their confidence.

Meanwhile, participant perceptions of the quality of our monitoring were up slightly, with just over half of the survey respondents agreeing with a range of statements on the subject. An independent assessment found the material produced by the Authority to promote trust and confidence largely achieves its aim to support both consumer and the broader sector's understanding of the Authority, the industry, and trade-offs within market settings.

Market services continued to be resilient to adverse events, supporting our role to enhance operational efficiency and reliability. In 2021/22 this was indicated by the maintenance of Business Continuity and Disaster Recovery plans, successful testing of these plans, and the continued provision of services during the COVID-19 alert level restrictions.

Case study

COMPLIANCE STRATEGY

As regulator, we continue using markets and our compliance function to create the right incentives for progress. Transparent and predictable enforcement of rules builds trust and confidence that all participants are held to the same standard, solidifying regulatory confidence.

The Authority has recently implemented a new compliance strategy to structure its compliance approach and focus its resources on the most serious and highest-priority risks.

The strategy outlines the compliance approach for participants operating in the electricity sector. It establishes the guiding principles and objectives for the Authority, under which further policies and procedures will be developed for specific compliance activities, such as participant registration, participant auditing, education, monitoring, investigation and enforcement.

The compliance strategy draws on a range of options for encouraging and enabling compliance and for responding to non-compliance. Compliance tools range from educating and assisting a participant to comply where the risk presented is minor, to laying a complaint with the Rulings Panel.

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

The Authority expects the new strategy will deliver the following key outcomes:

- Authority staff, industry participants and stakeholders have a clear understanding of the Authority's Compliance Strategy and compliance approach.
- Authority staff will have a clear understanding of the function of Compliance across the Authority and their role under the Compliance Strategy.
- Confirm the Authority has the appropriate tools and uses them appropriately to support the strategy.
- Streamline and make efficient use of Authority resources to encourage participant compliance.
- Signal to participants, and to the wider regulated sector, the level of seriousness with which the Authority views compliance and the risks breaches pose.

Case study

9 AUGUST EVENT

Building and maintaining trust and confidence in the electricity system is even more critical as we live within increasingly uncertain times. We are working to ensure a stable regulatory regime to give certainty to the electricity sector and wider public.

On 9 August 2021, the country faced the largest New Zealand demand peak on record in response to one of the coldest nights of the year.

Transpower as the electricity system operator is responsible for managing supply emergencies and providing information on security of supply. On 9 August, Transpower was faced with responding to a critical situation in real time. Operations staff took immediate action under difficult circumstances to avert a potentially more widespread and catastrophic event.

Transpower issued notices and requested action by participants to balance supply and demand. But the communication was at times ambiguous and key calculations incorrect. As a result, about 34,000 consumers had their electricity cut without warning. Given the circumstances the Authority considered this unacceptable and used its statutory powers under section 16(1)(g) of the Act to immediately launch a two-phase review into the outages.

The Phase 1 review (published in September 2021) focused on the system operator's demand allocation tool and communication processes and protocols. This phase sought to assure New Zealand consumers that any systemic and process issues that led to the electricity cuts on 9 August were urgently corrected.

The Phase 2 review (published in April 2022) was wider in scope and provided a final summary of the various investigations, observations and recommendations that have been conducted by the Authority, Transpower and the Ministry of Business, Innovation and Employment (MBIE).

The Authority found the system operator's tools and communication protocols had not been adequately tested for a national grid emergency. The system operator's notices at the time did not give enough information for distributors to understand the wider context of the event, and the ambiguity resulted in some distributors being unsure about the action required. The lack of clarity also resulted in distributors and retailers not having enough information to ensure they communicated the extent of the issue with their customers.

The Authority continues to work closely with Transpower to drive ongoing improvements to the system operator's performance and give confidence to New Zealanders that they can rely on a secure and reliable electricity system.

In addition to the two-phase review, the Authority has considered alleged breaches of the Code on 9 August 2021 by three participants:

- The Authority considered an alleged breach by Contact Energy Limited (Contact) but did not open a formal investigation on the basis that the evidence did not establish a breach.
- The Authority discontinued an investigation into an alleged breach by Genesis of the trading conduct rules for not offering generation from Huntly Unit 4 on 9 August.
- The Authority investigated alleged breaches of the Code by Transpower as the system operator and on 12 April 2022, the Authority decided to lay a formal complaint with the Rulings Panel in relation to alleged breaches of the Code.

The Authority also received a claim that an UTS occurred on 9 August. The Authority investigated this claim and released a final decision on 28 June 2022, finding that a UTS did not occur.[8]

8 Since the end of the 2021/22 year, this UTS decision and a pricing error claim decision (also arising out of the 9 August 2021 events) have been appealed.

Thriving competition

Market competition is a key enabler to deliver a better energy future – driving progress, efficiency and valuable outcomes for New Zealand. Increased disruption to traditional electricity business models and industry structure through competition improves choice, control and affordability for consumers.

Over the years, our market-oriented solutions have successfully reduced barriers to retail participant entry and expansion. In the past year we have continued to progress pro-competitive measures, including facilitating robust and evolving market making and increased information disclosure.

In 2020/21, we announced that we would conduct a review into competition in the wholesale electricity market. In October 2021, we released two papers: *Monitoring Review of Structure, Conduct and Performance in the Wholesale Electricity Market,* a detailed review paper that provides a set of observations about the competitiveness of the wholesale market; and *Inefficient Price Discrimination in the Wholesale Electricity Market – Issues and Options* as the first step in responding to the review, addressing one observation from the Monitoring Review.

We're committed to encouraging participation and reinforcing competition in traditional and emerging markets, and we will continue to put in place the mechanisms needed to maintain a level playing field so that participants can provide consumers value for money and a growing range of innovative products and services.

Impact	Measure	Desired trend	2020/21 result	2021/22 result
New entrants can compete on a level playing field with established participants	Improved participant perceptions of ability for new entrants to compete with established participants	Increasing	18.5%	**Achieved. 27%** of participants surveyed agreed that new entrant retailers and generators can compete on a level playing field with established retailers or generators.
Market settings enable competition between distributed energy resources (DER's) and established technology solutions	Number of network companies seeking to procure non-network services on a competitive basis	Increasing	Three out of 19 of the network companies surveyed.	**Achieved. 17 out of 26** network companies surveyed seek to procure non-network services on a competitive basis.
	Number of participants providing non-network services to network companies	Increasing	One out of 19 of the network companies surveyed.	**Achieved.** Of the network companies surveyed, **four** are receiving non-network services from a participant.
	Improved participation in a range of electricity markets, for example, demand-side participation in a range of markets	Improving	Partially achieved	**On track.** The Authority is undertaking a variety of workstreams aimed to improved participation in a range of markets.

Related outcome measures	Desired trend	High level result
Improved participant perceptions of the competitiveness in electricity markets	Increasing	Achieved
Improved consumer perceptions of the competitiveness of electricity markets	Increasing	Not achieved
Overall improvement across a suite of statistics on electricity market competition	Improving	Not achieved
Improved participant perceptions of the efficiency in electricity markets and transmission and distribution arrangements	Increasing	Achieved
Overall improvement across a suite of statistics on electricity system and market efficiency	Improving	Achieved

Further details on outcome measure results are included later in this section.

Performance measures for thriving competition increased in 2021/22. However, there is still room to improve in future years, particularly with participant perceptions of the ability of new entrants to compete with established participants, with just over a quarter of survey respondents agreeing that there is a level playing field. Respondents from generator/retailers ('gentailers'), generators, consultancies and metering services/providers were the most likely to agree that there is a level playing field. Similarly, the majority of those agreeing were from organisations that had been in the industry for more than 10 years. Newer entrants to the electricity industry were more likely to disagree with statements on the subject.

There has been an increase in the number of network companies procuring non-network services, indicating greater integration of distributed energy resources in the electricity system. Of the 26 survey respondents who represented a network company, 17, or 65 percent, said their organisation has sought to procure non-network services on a competitive basis. Three more network companies are receiving non-network services than in 2020/21.

The Authority has a variety of workstreams to improve participation in a range of electricity markets. Central to this is our aim to ensure we have the right regulatory settings in place to promote competition and access to the distribution network. This will support the transition to a low-emissions future at the pace required and unlock the potential of distributed energy resources (DER) for the long-term benefit of consumers. A paper outlining the Authority's views on the issues and opportunities with distribution networks will be published in 2022/23.

Case study

WHOLESALE MARKET REVIEW

Market competition is a key enabler to deliver a better energy future. 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.

In October 2021, the Authority published a detailed monitoring review of competition in the wholesale electricity markets over the period from the Spring 2018 Pohokura gas outages up to and including the first two quarters of 2021. The review adopted a Structure-Conduct-Performance framework, and examined 26 different indicators of competition.[9] At the same time, we also published the first issues paper arising from the review, which looked at the potential harm to consumers from very large-scale inefficient price discrimination.

The review itself found that over the review period prices have to some extent reflected supply and demand conditions, but not all of the price increases experienced since 2018 could be explained by the underlying conditions in the market.

None of the 26 indicators in isolation provide concrete evidence to establish whether spot wholesale prices were being established in a competitive market. Taken as a complete picture however, there does appear to be some evidence that spot prices may not always have been determined in a competitive environment.

One clear and pressing issue that was identified during the review was the potential for distortions in the market from large contracts for the supply of electricity at prices that might be inefficient. In early 2021, a new contract was announced relating to the supply of electricity to New Zealand Aluminium Smelter (NZAS) at Tiwai point. The smelter consumes about 13 percent of New Zealand's electricity. The new agreement between NZAS and Meridian saw the smelter pay a significantly lower price than the rest of the country, which raised the possibility that electricity supply was not being allocated efficiently. This leads to a potential efficiency cost to the New Zealand economy of between $57 million and $118 million, and corresponding higher spot market costs to other consumers of an estimated $1.6 billion to $2.6 billion over the four-year life of that contract. Our modelling suggested that if the NZAS smelter contract was inefficient, households could be paying up to an extra $200 per year.

The Authority received many detailed submissions on both the review and the issues paper. Addressing the potential issues the NZAS arrangement raises is the first step in responding to the review and a priority for the Authority. The wider monitoring review of wholesale market competition signals the continuation of the Authority's programme of work on the wholesale market. The Authority is focused on providing a stable regulatory environment that responds to change and enables an efficient transition to a low-emissions economy. With increasing uncertainty due to external shocks, including a global fuel shortage and escalating climate concerns, it is imperative that the Authority continues to focus on strengthening regulatory settings to incentivise investment, competition and the right market behaviours. The review and issues paper are part of this focus on regulatory certainty.

9 More information on the Structure, Conduct and Performance framework used for this review is provided in the *Market Monitoring Review of Structure Conduct and Performance in the Wholesale Electricity Market – Information Paper*, available on our website: https://www.ea.govt.nz/assets/dms-assets/29/Monitoring-Review-of-structure-conduct-and-performance-in-the-wholesale-electricity-market-updated-paper.pdf

Innovation flourishing

We work to unlock the full benefits of, and opportunities for, innovation for consumers by making sure regulatory 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.

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. The Climate Change Commission's advice reinforces that continued transformational change will be required.

Ongoing evolution of the electricity system will be achieved through innovation and disruption, with both participants and the Authority thinking beyond the status quo as we seek to meet consumer needs and support the transition to a low-emissions energy system.

We are already starting to see innovation and technology being tested and deployed in new ways that will enhance how electricity is generated, distributed and consumed, and ultimately change the cost and competitive structure of the industry.

Impact	Measure	Desired trend	2020/21 result	2021/22 result
The regulatory system accommodates new business models	Improved participant perceptions of the ability of the system to support rapid change	Increasing	18%	**Achieved. 28%** of participants surveyed agreed that the regulatory environment supports new business models and technology.
	Improved participant perceptions of the current market settings' ability to encourage innovation	Increasing	23%	**Maintained. 23%** of participants surveyed agreed with the range of statements on the current market settings' ability to encourage innovation.
	Number of sandboxes, trials, pilots in play across the network	Increasing	Two small-scale trials in play.	**Maintained.** At 30 June 2022, there were **two** small-scale trials in play.
	Increased number of participants providing new services to consumers	Increasing	New measure introduced in 2021/22	**37%** of participants surveyed reported providing new products or services to consumers in the past 24 months.
The availability and transparency of industry data is continuously improved	Number of data transactions we have facilitated	Increasing	1,367,765	**Not achieved. 843,455** data transactions were facilitated in 2021/22.
	Number of new datasets we have provided access to	Increasing	10	**Not achieved.** We provided access to **6** new datasets in 2021/22.

Related outcome measures	Desired trend	High level result
Improved participant perceptions of the competitiveness in electricity markets	Increasing	Achieved
Improved participant perceptions of the balance between the cost and reliability trade-offs	Increasing	Maintained
Improved participant perceptions of the efficiency in electricity markets and transmission and distribution arrangements	Increasing	Achieved
Improved consumer perceptions of the efficiency of electricity in New Zealand	Increasing	Not achieved

Further details on outcome measure results are included later in this section.

While there were some year-on-year increases seen in 2021/22, there remains room for the regulatory system to better accommodate new business models. Just over a quarter of participants surveyed agreed that the regulatory environment supports new business models and technology. This represents a 56 percent increase from the previous year. However, perceptions of the current market settings' ability to encourage innovation remain at a similar level to 2020/21. Influencing these results was the pace and scale of change required to support mass electrification in the transition to low-emissions energy, alongside the trust and confidence in the regulatory system that's needed to encourage innovation and investment in new technologies.

We also saw a reduced number of data transactions and new datasets published, when compared to the 2020/21 baseline. The number of new datasets published was lower this year, as the Authority focused on migrating our data warehouse to a more robust system, which included designing, building and populating the new data system. The number of data transactions facilitated in 2021/22 was also down compared to the baseline, however we note the high volume seen in 2020/21 was likely due to interest in the investigation into the undesirable trading situation of December 2019.

Throughout 2021/22, the Authority continued to work with the organisations listed below to facilitate small scale trials below the level of the Code. These trials will indicate the degree of consumer benefits that could be expected with a large-scale trial, and what Code impediments exist.

a) Ara Ake for multiple trading arrangements.
b) Kāinga Ora for a type of peer-to-peer trade.

Case study

REAL-TIME PRICING

Evolution of the electricity system will be achieved through innovation and disruption, with participants and the Authority thinking beyond the status quo. Our role is to help unlock the full benefits of innovation for consumers by making sure the market settings are conducive to innovation and industry success. This innovation, particularly in demand-response technologies and services, will support security of supply as New Zealand transitions to a higher proportion of variable renewable generation.

The Authority continues to make great progress towards moving to real-time pricing (RTP) in the wholesale electricity market in late 2022.[10] Working through NZX and Transpower, the Authority released the second phase of software in March 2022 – building on the first phase released a year earlier.

The project is on track for RTP to go live in November 2022. From then, the settlement price for each trading period will be calculated at the end of the trading period, based on the dispatch prices published during the trading period, and published immediately.

Technological change for a more simple, responsive system

RTP will make the spot market simpler. Prices will be driven directly by live conditions on the power system rather than calculated separately the next day using different information.

Consumers will be able to adjust their own electricity consumption in response to changes in pricing with confidence they are reacting to the correct price. More accurate and actionable wholesale pricing in real time will also promote the integration of increased renewable generation as New Zealand transitions to a low-emissions economy.

RTP will add a low-cost path for small providers (such as residential solar and battery systems), and participants who aggregate small providers, to bid and offer their resources into the wholesale market. This will enable the system operator to use that information in the market schedules to balance the volatility of variable renewable generation and enhance security of supply in the power system. It will help mitigate price volatility within a trading period as wind and solar generators ramp up and down in response to their respective resources.

Maximising demand response

After implementation, industrial consumers have six months to prepare to make the most of the system. From April 2023 the dispatch notification product will enable the inclusion of distributed energy resources and aggregated demand management in the wholesale market. Enhancements to dispatchable demand will allow large industrial consumers to bid in demand management in a way that better suits the physical constraints of their plant and processes.

This type of demand response gives consumers the opportunity to reduce or shift electricity usage during peak periods to balance out supply and demand. It allows consumers to confidently adapt their electricity consumption in line with pricing variations. Real-time prices open up the opportunity for a more accurate real-time demand response – this is good for consumers and for the security of the system.

10 More information on our real-time pricing work is available on our website: https://www.ea.govt.nz/development/work-programme/pricing-cost-allocation/spot-market-settlement-on-real-time-pricing/

PROGRESS AGAINST OUTCOMES

The following section provides a high-level summary of the progress made against our outcomes for Competition, Reliability and Efficiency. Further details of the 2021/22 results, including details on how the statistics are used, can be found in Appendix A.

Perceptions of Competition, Reliability and Efficiency either stayed the same or reduced slightly for both industry participants and domestic consumers in 2021/22. This reflects a challenging year, with unplanned outages on 9 August 2021, high profile reviews of competition occurring in various markets, the rising cost of living and inflation reaching a 30-year high in March 2022.[11]

Through this, the Authority is continuing to progress against our outcomes. We monitor the efficiency of electricity prices and publish a weekly trading conduct report, reviewing periods of interest as they occur – such as the elevated prices seen in January 2022.[12, 13]

Competition

We encourage competition in all electricity-related markets

Competition helps to 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 electricity markets across the supply chain, taking into account the long-term opportunities that will lead to better outcomes for consumers.

Outcome measure	How we measure results	Desired trend	2020/21 result	2021/22 result
Improved participant perceptions of the competitiveness in electricity markets	Percentage of participants who agree with a range of statements on electricity market competitiveness	Increasing	36%	**Maintained. 36%** of participants surveyed agreed with a range of statements on electricity market competitiveness.
	Percentage of participants who agree that prices in the following electricity markets reflect the outcomes expected in a workably competitive market		29%	**Achieved. 30%** of participants surveyed agreed that prices in a range of electricity markets reflect the outcomes expected in a workably competitive market.
Improved consumer perceptions of the competitiveness of electricity markets	Percentage of consumers who agree with a range of statements on electricity market competitiveness	Increasing	75%	**Not achieved. 73%** of residential consumers surveyed agreed with the range of statements on electricity market competitiveness.
Overall improvement across a suite of statistics on electricity market competition	Overall improvement in the following statistics: ▪ Retail market concentration (HHI statistic)[14] ▪ Retail market share (CR4 statistic) ▪ Net pivotal analysis ▪ Hedge market concentration (HHI statistic) ▪ Concentration in the ancillary services market (HHI of reserves statistic) ▪ Number of retailers' approaches to consumers with offers to induce switching (measured by survey)	Improving	Five of the six statistics either improved (3) or remained stable (2) over the year.	**Not achieved. Three of the six** statistics remained low and stable over the year. Retail market share and concentration were trending downward but spiked in late 2021/22 following Mercury's acquisition of Trustpower's retail business. The number of retailers' approaches to consumers continued to fall.

11 https://www.stats.govt.nz/news/annual-inflation-reaches-30-year-high-of-6-9-percent

12 https://www.ea.govt.nz/monitoring/market-performance-and-analysis/monitoring-trading-conduct

13 https://www.ea.govt.nz/about-us/media-and-publications/market-commentary/market-insights/january-prices-were-high-due-to-high-demand-and-constrained-generation

14 Herfindahl-Hirschman Index. The HHI measures the market concentration, where decreasing HHI indicates decreasing market concentration, which can indicate greater competition.

As with the previous year, participant survey respondents rated lower levels of agreement with statements on competition than residential consumers. When compared year-on-year, participant perceptions remain stable, with a one percent increase in agreement. This compares with approximately three quarters of residential consumers surveyed who agreed with a range of statements on competitiveness, although agreement fell by two percent in 2021/22. Comments provided by respondents indicate that this was largely impacted by increasing costs of electricity and a perception that there is little difference between power companies and their offers.

Of the six statistics used to assess electricity market competition, three remained low and stable throughout 2021/22 and continued an overall downward trend over time. Meanwhile, retail market share and concentration sustained a downward trend until late in the year, when Mercury's acquisition of Trustpower's retail business caused a spike in the two statistics. The acquisition was assessed and approved by the Commerce Commission in September 2021 and came into effect in May 2022. It was the view of the Commerce Commission that, "the proposed acquisition would not have a significant detrimental effect on competition when compared with what would likely happen if the merger did not proceed".[15]

Reliability

We seek reliable day-to-day and long-term security of electricity supply for consumers.

Reliability is important because homes and businesses depend on having a continuous supply of electricity. Our regulatory focus on reliability will become even more important as the country moves to higher levels of renewable generation to reduce emissions, and as electricity use increases over time.

Reliable supply refers to both the reliability of supply, in terms of the quality and physical continuity of electricity supply and the security of supply – for example, the risk of supply shortages putting upward pressure on electricity prices.

Outcome measure	How we measure results	Desired trend	2020/21 result	2021/22 result
Improved participant perceptions on the efficiency of supply reliability	Percentage of participants who agree with a range of statements on electricity supply reliability	Increasing	**72%**	**Not achieved. 71%** of participants surveyed agreed with the range of statements on electricity supply reliability.
Improved participant perceptions of the balance between the cost and reliability trade-offs	Percentage of participants who agree with a range of statements on the balance between the cost and reliability trade-offs	Increasing	**36%**	**Maintained. 36%** of participants surveyed agreed with the range of statements on the balance between cost and reliability trade-offs.
Improved consumer perceptions of the reliability of electricity in New Zealand	Percentage of consumers who agree with a range of statements on electricity reliability	Increasing	**64%**	**Not achieved. 62%** of domestic consumers surveyed agreed with the range of statements on electricity reliability.

15 https://comcom.govt.nz/news-and-media/media-releases/2021/mercury-cleared-to-acquire-trustpowers-retail-business

Outcome measure	How we measure results	Desired trend	2020/21 result	2021/22 result
Overall improvement across a suite of statistics on efficient levels of reliable electricity supply	Overall improvement in the following statistics: ▪ Pricing in scarcity events reflects opportunity cost, as measured by case-by-case analysis ▪ Effective management of dry years or emergency events, as measured by case-by-case analysis ▪ Capacity and energy margins are within efficient bounds or are moving towards those bounds, as measured by the annual security assessment ▪ Investigation of reliability events does not identify systemic issues, as measured by case-by-case analysis	Improving	Initial reviews suggest the statistics performed as expected.	**Not achieved. Three of the four** statistics performed as expected. The Authority's investigation of the 9 August 2021 event had highlighted issues that are being addressed.

Perceptions of electricity reliability remain stable, with only a slight decrease in 2021/22 compared to the previous year. Nearly three quarters of respondents to the participant survey agreed that there is a reliable supply of electricity, suggesting strong confidence in the reliability of the electricity system across the industry. Similarly, approximately two thirds of consumer survey respondents agreed with a range of statements on electricity reliability both now and into the future.

However, questions were raised by respondents to both surveys on the challenges New Zealand faces with climate change and electrification putting increased demand on the electricity system. Also of concern was the country's reliance on thermal generation from coal and a lack of investment in renewable generation. For respondents to the participant survey, this impacted the levels of agreement that cost and reliability trade-offs would strike a balance.

The 9 August 2021 event affected perceptions and the overall statistics in 2021/22. Our investigation into an alleged UTS found the use of scarcity pricing was appropriate, with prices reflecting the value of foregone consumption. However, the Authority's two-phased review of the event (which ran independently of our investigation into the alleged UTS) highlighted systemic issues that are being addressed and reported on.[16]

16 https://www.ea.govt.nz/monitoring/enquiries-reviews-and-investigations/2021/electricity-authority-review-of-9-august-2021-event-under-the-electricity-industry-act-2010/

Efficiency

We are continuously focused on efficiency improvements in the electricity industry.

When efficiency is high, electricity system resources and investments are focused in the right areas, and costs to operate the system can reduce and flatten. Ongoing innovation and improvements help create greater efficiency. For a consumer, greater efficiency should translate into more affordable electricity and services.

Outcome measure	How we measure results	Desired trend	2020/21 result	2021/22 result
Improved participant perceptions of the efficiency in electricity markets and transmission and distribution arrangements	Percentage of participants who agree with a range of statements on the efficiency in electricity markets and transmission and distribution arrangements	Increasing	37%	**Achieved. 39%** of participants surveyed agreed with the range of statements on efficiency in electricity markets and transmission and distribution arrangements.
Improved consumer perceptions of the efficiency of electricity in New Zealand	Percentage of consumers who agree with a range of statements on the efficiency of electricity in New Zealand	Increasing	65%	**Not achieved. 59%** of domestic consumers surveyed agreed with the range of statements on the efficiency of electricity in New Zealand.
Overall improvement across a suite of statistics on electricity system and market efficiency	Overall improvement in the following statistics: ▪ Robust futures prices ▪ Dry year prices reflect storage levels, as assessed by case-by-case analysis ▪ Exceptional prices are justified by underlying fundamentals, as assessed by case-by-case analysis ▪ Reducing constrained-on compensation	Improving	Three of the four statistics performed as expected in initial review.	**Achieved. Four of the four** statistics performed as expected.

While the majority of consumers surveyed agreed with the range of statements on the efficiency of electricity in New Zealand, overall consumer perceptions decreased from last year. Respondents noted retailers' pricing structures were confusing, and that finding and switching providers was difficult. The cost of electricity coupled with rising costs of living also played a role in decreased perceptions.

Meanwhile, participant perceptions improved during the year, with more survey respondents agreeing that the New Zealand electricity market ensures electricity is generated, transmitted and distributed more efficiently than in the previous year.

Performance against all four statistics continued to track as expected over the year. High trading volumes and open interest suggest that futures prices are robust; higher prices, as seen in Winter 2022, reflected the hydro storage levels and falling output from the Pohokura gas field; the Authority's investigation into the alleged UTS following the 9 August 2021 event found the market acted in line with underlying fundamentals in terms of pricing; and constrained-on compensation has continued to fall since 2013.

Part Two

STATEMENT OF PERFORMANCE

Alongside implementing our Annual Corporate Plan, the exercise of our functions also makes a valuable contribution to our strategic ambitions.

We receive funding from the Crown each financial year from three appropriations within Vote Business, Science and Innovation:

Our appropriations	Our functions
Operating appropriation:	
The electricity industry governance and market operations appropriation	Promote market development
	Monitor, inform and educate
	Operate the electricity system and markets
	Enforce compliance
Contingent appropriations:	
The managing the security of New Zealand's electricity supply appropriation	Addressing funding requests from the system operator for the management of security of supply events
The electricity litigation fund appropriation	Defending cases against the Authority and taking enforcement action

This section sets out our performance for each appropriation, including:

- what was intended to be achieved
- the scope of each appropriation
- the functions provided under each appropriation
- the 2021/22 performance measures, including desired results and targets
- the status and result for each performance measure as at 30 June 2022.

Performance measures used in the 2021/22 Estimates of Appropriations

Some performance measures used in the *Statement of Performance Expectations (SPE)* are also used in the 2021/22 Estimates of Appropriations. These measures are identified in **bold**.

Service Performance disclosure statement

COVID-19 and the resulting lockdown period of 2019/20 had a material impact on one service performance measure for 2021/22, with lockdown-related delays causing a backlog of cases that continues to impact the measure. Further details can be found under the Enforce Compliance function of the *Electricity industry governance and market operations* appropriation.

COVID-19-related staff absences also materially impacted one service performance measure in 2021/22, by causing delays to market development projects, which led to published milestones or targets not being met. Further details can be found under the Promote Market Development function of the *Electricity industry governance and market operations* appropriation.

For all other service performance measures, there was no material impact of COVID-19 in 2021/22. Business-as-usual services were able to continue largely unaffected, while COVID-19-related work was carried out. Changes in alert levels or protection framework settings did not adversely affect the Authority's ability to report against performance indicators, as work was able to continue remotely.

ELECTRICITY INDUSTRY GOVERNANCE AND MARKET OPERATIONS

What is intended to be achieved

This appropriation is intended to achieve the promotion of competition in, reliable supply by, and the efficient operation of, the electricity industry for the long-term benefit of consumers.

Scope of appropriation

This appropriation is limited to formulating, monitoring and enforcing compliance with the regulations and code governing the electricity industry and other outputs in accordance with the statutory functions under the Electricity Industry Act 2010 (Act); and delivery of core electricity system and market operation functions, carried out under service provider contracts.

Our functions under this appropriation

This appropriation funds our operations, including Board members' costs, the Rulings Panel, the Security and Reliability Council, advisory groups and the operation of the electricity system and market operations as detailed below. This includes our four main functions, which are specified in the sections that follow.

1. **Promote market development:** we promote development of the electricity markets by making amendments to the Code and through market facilitation measures.[17]
2. **Monitor, inform and educate:** we monitor market behaviour, make data, information and tools available and educate consumers and participants.
3. **Operate the electricity system and markets:** we are responsible for the day-to-day operation of the electricity system and markets, delivered through contracts with service providers.
4. **Enforce compliance:** we monitor, investigate and enforce compliance with the Act, relevant regulations and the Code.

17 Market facilitation measures are actions we can take short of amending the Code or recommending changes to regulations or legislation. This can include working directly with participants to develop desired results, education programmes, publication of guidelines and publication of model agreements.

01

Promote market development

Our market development work promotes competition in, reliable supply by, and the efficient operation of, the electricity industry for the long-term benefit of consumers.

We have two key tools at our disposal to develop the market: amending the Code and adopting market facilitation measures. We use these tools to ensure market arrangements are appropriate for today's needs and flexible enough to enable tomorrow's innovations. Our market development cycle (Figure 2) ensures market improvement initiatives are effectively implemented, and the results assessed.

We use post-implementation reviews of key projects to assess whether our initiatives deliver the expected benefits. We also carry out overall monitoring of the performance of the market under our monitor, inform and educate function (see page 43).

The Innovation and Participation Advisory Group (IPAG) and Market Development Advisory Group (MDAG), stakeholders and contracted service providers have all made significant contributions to our market development work.

In July 2020, Manawa Energy Limited (formerly Trustpower Limited) applied for judicial review of the Authority's 2020 transmission pricing methodology (TPM) guidelines decision in July 2020. The High Court hearing of the application ran in October 2021. In June 2022, the High Court made a decision determining that the Authority's decision was lawful and dismissed the application for judicial review.[18]

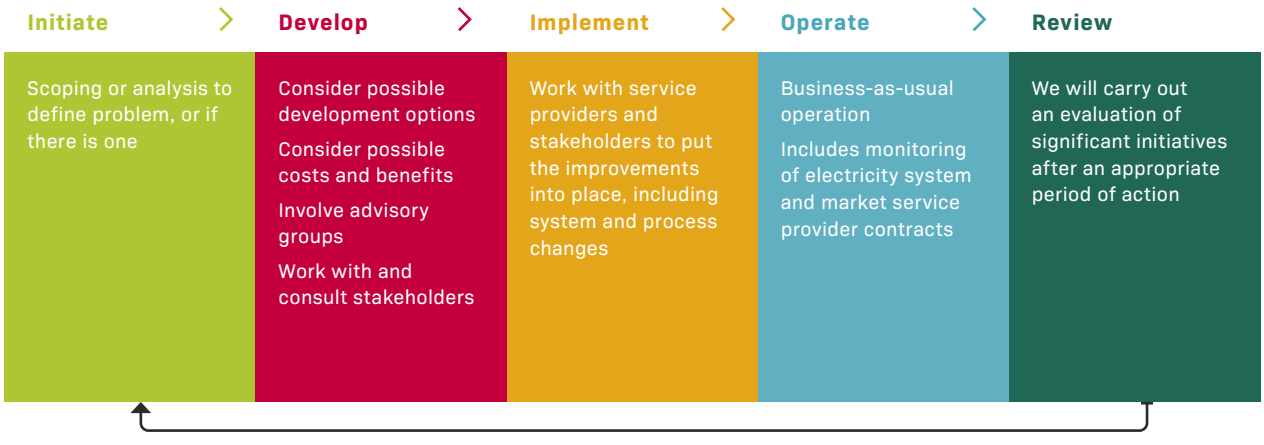


Figure 2: Our market development cycle

18 On 15 July 2022, Nova Energy Limited, a supporter of Manawa Energy's challenge, submitted an appeal against the 20 June decision.

Performance measures

Measure	Target	2020/21 result	2021/22 result
Market development projects achieve planned deliverables for the year	**80% of market development projects with published targets meet all of their milestones***	**Not achieved (78%)**	**Not achieved. 75% (9 out of 12) of the projects with published targets met their milestones for the year. The remaining three were delayed or reprioritised during the year in order to respond to other emerging issues, or due to COVID-19-related staff absences.**
Our market development decisions** are lawful and appropriate	Zero (0) legal challenges that result in an Authority market development decision being overturned***	Achieved	**Achieved.** There were zero successful challenges in 2021/22.
Transparent, rigorous post-implementation reviews are conducted to establish whether Code amendments deliver intended benefits and impacts on market behaviour	In 2020/21 we plan to complete one post-implementation review. Post-implementation reviews show that market behaviour altered in intended direction identified when the Code or market facilitation measure was approved	Achieved	**Achieved.** The Board has approved the post-implementation review of the trading conduct provisions.

Notes:

* Our market development projects and milestones are identified and published annually. Details of the 2021/22 market development projects are included in our Annual Corporate Plan, available on our website: https://www.ea.govt.nz/about-us/strategic-planning-and-reporting/

** Includes market development decisions to implement code amendments or market facilitation measures. These decisions can be disallowed, appealed or judicially reviewed — on the process used to reach the decision, and/or on the lawfulness, reasonableness or appropriateness of the decision itself.

*** An appeal or judicial review can overturn a market development decision by directing us to reconsider a decision or re-run a process. The House may also overturn a market development decision if it accepts a Regulations Review Committee recommendation for it to be 'disallowed' — meaning the decision will no longer have force.

Three market development projects that did not meet the milestones published in the *Annual Corporate Plan* in 2021/22. This was due to these projects being delayed or reprioritised during the year in order to respond to emerging risks and issues, such as the 9 August 2021 event, and the wholesale market competition review. Projects were also subject to significant operational impacts due to COVID-19, with COVID-19-related staff absences affecting key teams simultaneously.

The three projects have been reprioritised and incorporated into various activity areas in the *Annual Corporate Plan 2022/23*.

02

Monitor, inform and educate

Our 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 ensure the competitive, reliable and efficient operation of the electricity market.

Our market analysis function improves understanding by identifying behaviours that are potentially inconsistent with our objective. It also provides appropriate feedback into the market development work.

We must also undertake reviews of any matters relating to the electricity industry that are specified by the Minister under section 18 of the Act.

Performance measures

Measure	Target	2020/21 result	2021/22 result
Robust investigation, analysis and reporting on events	**Two reports completed per annum**	**Achieved**	**Achieved. In 2021/22 we published the final report on the alleged UTS relating to the 9 August 2021 event. We also published Four Quarterly reviews throughout the year, the wholesale market review and two reports into the 9 August 2021 event.**
Reviews requested by the Minister under section 18 of the Act	Reports under section 18 of the Act rated as good or very good by independent peer review*	N/A	**N/A.** The Authority received no requests under section 18 in 2021/22.
Making information available to enable public understanding of the electricity system in New Zealand to facilitate effective decision making within the system	Publish 10 or more consumer focused items on the New Zealand electricity system**	Achieved	**Achieved. 53** consumer focused publications were made. 40 for Market Brief, 8 consumer facing media releases and 5 Market Insight/ Commentary articles
	Maintain the number of annual visits (60,000) to the consumer section of the Authority website	Achieved. 160,627 annual visits.	**Achieved.** The number of site visits increased to **230,821** in 2021/22.***
Making data, insights and analytical tools available to industry participants	Maintain the number of annual visits (35,000) to the EMI**** website	Not achieved. 30,283 annual visits.	**Achieved**. The number of annual visits to the EMI website increased to **45,198** during 2021/22. There was a two-week period that accounted for 10% of this annual total.

Notes:

* Assessment was by external expert reviewers using a 5-point scale of: very poor, poor, average, good, very good.

** Reporting to date has been based on new or updated content placed on the 'Consumers' section of the website during the year. It may also include social media posts designed to enable public understanding.

*** Total number includes 163,148 views to the My Meter page of the Consumer section. Excluding My Meter, the total would be 67,673.

**** The Electricity Market Information website (EMI) is the Electricity Authority's avenue for publishing data, market performance metrics, and analytical tools to facilitate effective decision-making within the New Zealand electricity industry.

03

Operate the electricity system and markets

We are responsible for the day-to-day (real time) efficient and reliable operation of the electricity system and markets. The Act requires us to contract out a number of functions to a group of service providers.[19]

There have been extensive changes to the Market Operation Service Providers (MOSP) services, systems and contract arrangements over recent years. Because of this, the main focus under this function for 2021/22 continued to be on ensuring services were delivered to the high standard expected by the Authority and the users of the services.

Performance measures

Measure	Target	2020/21 result	2021/22 result
Electricity system and market operation performance will be assessed by monitoring service provider performance to ensure that contract requirements, including performance standards, are met*	**Performance levels met or remediation agreed**	**Achieved**	**Achieved. Not all relevant performance standards were met (most significantly, the Authority notes issues with the delivery of the system operator service in relation to the electricity outages of 9 August 2021) but remediation actions or processes have been agreed or are underway in all cases.**
	Any issues identified in audits of market operations service providers have a remedial plan agreed and actioned by the agreed date**	Achieved	**Achieved.** Audits of market operations service providers have not raised issues of substantial concern, and remedial plans are or will be in place for those issues that were raised (noting that some audits have only been received in the final few weeks of the 2021/22 financial year).
The Authority carries out its Code obligations in accordance with the Electricity Industry Participation Code 2010	No significant breaches as a result of the Authority carrying out its Code obligations***	Achieved	**Achieved.** During 2021/22 there were no significant breaches of the Authority's Code obligations.****

Notes:

* This measure combines several different performance measures for the system operator and market service providers, including system operator annual performance assessment, regular monitoring and review.

** For example, significant service provision issues may include breaches of the Code and/or issues that have affected market confidence, and/or issues that have resulted in multiple complaints and/or a warning letter to the CEO.

*** Including market administration and other obligations under the Code. Although the Authority is not a participant, the absence of breaches is an indicator that standards are met. Significant breaches are considered to be issues that have affected market confidence.

**** At the time of reporting, there is one open case which alleges that the Authority breached its obligations under clause 8(3)(a) of Schedule 13.4 of the Code.

19 A list of market operation service providers is available on page 27 of our *Statement of Intent 2021-2025*.

04

Enforce compliance

We are responsible for monitoring, investigating and enforcing compliance with the Act, regulations made under the Act, and the Code. The Authority's compliance and enforcement functions are key areas for building trust and confidence in the sector.

Our compliance function aims to improve the performance of the industry through education of participants and helps us identify and resolve ongoing or systemic issues.

Our enforcement function aims to take appropriate and proportionate action where necessary, to ensure the Act, regulations and the Code are followed by electricity industry participants.

In 2021/22 the Authority closed nine formal investigations. The investigations included two very complex and high-profile alleged breaches of the trading conduct rule (related to 9 August event), as well as investigations that had previously been delayed due to COVID-19.

The Authority was notified of 125 potential breaches of the Code across 43 different industry participants. During the year, the Authority resolved 123 (up from 106 cases in 2020-2021) cases and issued 22 warning letters (up from 15 warning letters in 2020-2021).

Category of Code Breach

125 notifications received in 2021/22

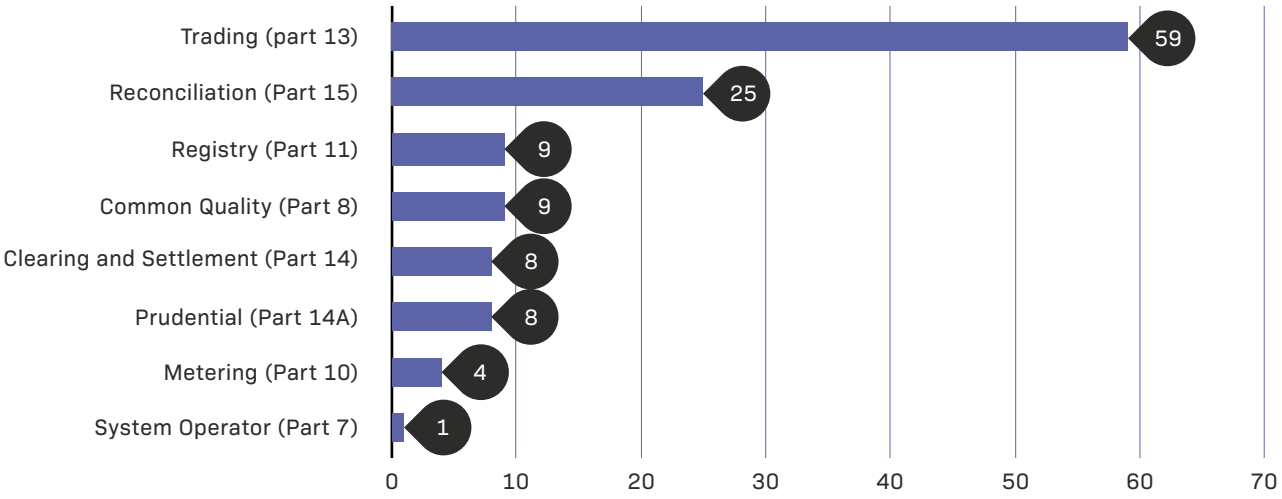


Figure 3: Category of Code breach

Performance measures

Measure	Target	2020/21 result	2021/22 result
Percentage of investigations* decided within 12 months of the investigation being opened	**100%**	**Not Achieved (88%)****	**Not Achieved. During 2021/22, 123 investigations were closed.** **10 of those cases were older than 12 months by 1 July 2021.** **Of the remaining 113 cases, 89% were decided within 12 months of the investigation being opened.**
Sound compliance processes followed	All reports to the Compliance Committee*** comply with the Authority's quality standards and case management procedures	Achieved	**Achieved**. During 2021/22, all reports to the Compliance Committee (and/or delegate) complied with the Authority's quality standards and case management procedures.

Notes:

* Investigations in this context include all fact-finding enquiries as well as formal investigations of alleged breaches of the Code.

** Calculated with the new methodology, the 2020/21 result would have been 93 percent, where six of the 106 investigations decided are excluded for being older than 12 months at 1 July 2020.

*** The Compliance Committee makes decisions on alleged breaches of the Act, various regulations and the Code. The committee determines appropriate enforcement responses, 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 with the Courts.

The percentage of investigations decided within 12 months of the investigation being opened, takes all investigations decided in 2021/22 and calculates how long each investigation was open.

Historically, this measure included investigations that were opened prior to the 2021/22 financial year (if they were decided during the year) and included cases that had already exceeded 12 months. For this report, those cases already older than 12 months by 1 July 2021 are excluded from the result for 2021/22.

On review of the cases that did exceed our timeliness measure, the following factors contributed:

- Prioritisation of higher profile cases such as those arising from the 9 August 2021 event.
- Onboarding and upskilling new staff meant some cases were processed more slowly than usual.
- COVID-19 lockdown impacts on staffing and participant responses.
- Cases that involved complex analysis which took time to clarify with the participant or to understand the circumstances of the alleged breach.
- Other high priority projects, for example delivery of the Compliance Strategy, Risk Framework, and processing Code amendments.

The Authority has implemented new initiatives to reduce timeframes and are focused on both reducing the backlog of historic cases and completing newer cases within the 12-month timeframe.

Compliance reset programme

During 2021/22, a number of initiatives were completed as part of the Authority's strategy reset:[20]

- Engaging with Ministry of Business, Innovation and Employment (MBIE) on possible amendments to strengthen the legislation and regulations in the areas of enforcement.
- Embedding the Authority's governance arrangements to achieve more timely decision making on potential breaches of the Code.
- Published a new compliance strategy that brings an Authority-wide approach to industry compliance and education.
- Publicising high-profile decisions of the Rulings Panel and High Court to increase the visibility of the enforcement function.
- Increased resourcing and scope of compliance and enforcement functions.
- Upgrading the technology platform that is used by the Authority and the sector for reporting and managing breaches.
- Developed a new risk-based compliance monitoring framework.[21]

20 See https://www.ea.govt.nz/about-us/strategic-planning-and-reporting/strategy-reset-2020/

21 See https://www.ea.govt.nz/assets/dms-assets/30/Compliance-Monitoring-Framework.pdf

Electricity industry governance and market operations appropriation and cost breakdown

Actual 2020/21 ($000)	Electricity industry governance and market operations appropriation	Actual 2021/22 ($000)	*Budget 2021/22 ($000)
76,627	Revenue from the Crown	77,372	**78,157
76,627	Expenditure	77,372	78,157

Notes:

* The budget for 2021/22 corresponds to the Main Estimates of Appropriations for the year ending 30 June 2022.

** An in-principle expense transfer for $1.788 million from 2020/21 to 2021/22 was confirmed at the October 2021 baseline update. A $2.000m increase for the appropriation was confirmed in the 2021/22 financial year at the March 2022 baseline update.

The above table includes the amount approved in the Government's Main Estimates of Appropriations for 2021/22 of $78,157 million; representing the maximum expenditure that can be incurred. The following table provides a breakdown of the components of this expenditure.

Actual 2020/21 ($000)	Electricity industry governance and market operations appropriation	Actual 2021/22 ($000)	*Budget 2021/22 ($000)
26,367	System operator—operating expenses	27,088	27,388
15,554	System operator—capital related expenses	13,735	15,033
41,921	**SYSTEM OPERATOR EXPENSES**	**40,823**	**42,421**
2,444	Service provider—clearing manager	2,383	2,454
1,703	Service provider—wholesale information and trading system	1,696	1,764
758	Service provider—pricing manager	736	776
931	Service provider—reconciliation manager	894	963
701	Service provider—registry manager	739	725
813	Service provider—financial transmission right manager	820	1,001
1,375	Service provider—depreciation and amortisation	1,144	1,200
4	Service provider—IT costs	6	50
8,729	**OTHER SERVICE PROVIDER EXPENSES**	**8,418**	**8,933**
25,977	**AUTHORITY OPERATING EXPENSES**	**28,131**	**26,803**
76,627	**TOTAL EXPENSES**	**77,372**	**78,157**

MANAGING THE SECURITY OF NEW ZEALAND'S ELECTRICITY SUPPLY

What is intended to be achieved

This appropriation is intended to achieve enhanced security of supply in the electricity system during periods of emerging or actual security situations.

Scope of appropriation

This appropriation is limited to the management by the system operator (Transpower) of actual or emerging emergency events relating to the security of New Zealand's electricity supply.

The system operator can request funding from this appropriation to:

- increase monitoring and management responsibilities in the event of an emerging or actual security situation
- plan and run an official conservation campaign.

Managing the security of New Zealand's electricity supply is a multi-year appropriation for the period 2017/18 to 2021/22. Expenses under this appropriation can only be incurred by the system operator – we cannot incur any expenses of our own under this appropriation.

Our functions under this appropriation

The system operator is responsible for ongoing security monitoring and emergency management.[22] The security management functions of the system operator include the preparation of the emergency management policy, which is incorporated into the Code by reference following our review and approval. The policy sets out the steps the system operator will take and encourage industry participants to undertake during an extended emergency.

Our primary role in respect to security of electricity supply is to ensure the Code promotes an efficient level of supply reliability. This includes specifying the functions of the system operator, how the functions are to be performed, and setting the requirements for transparency and performance. We also monitor the system operator's performance. This work is covered under the promoting market development and operating the electricity system and markets functions, respectively, of the electricity industry governance and market operations appropriation.

Our role in respect to this appropriation is limited to addressing requests from the system operator to use these funds. Our approval of any request is subject to an agreed process and criteria. The process requires the system operator to provide evidence of an actual or emerging security event, and to describe the actions it intends to take using the funds and how the use of these funds will be monitored. Agreeing this information in advance can help us to assess the effectiveness of the actions and the funding during and after the event.

The system operator would seek our approval for funding from this appropriation on a case-by-case basis when it considers increased monitoring or security management actions are justified. However, the system operator can, acting on a good faith basis, incur up to $300,000 of costs in this area without prior approval if it is not reasonably practicable to seek that approval.

Performance measures

Managing the security of New Zealand's electricity supply contributes to our reliability outcome (see page 30 of the *Statement of Intent 2021–2025 [SOI]*). The effective management of dry years and emergency events, as measured by case-by-case analysis, is one of a suite of statistics we use to measure whether there are efficient levels of reliable electricity supply. Should the system operator seek funding under this appropriation to manage a dry year or emergency event, how it uses the funding would be reviewed as part of the subsequent analysis. The results of the review would be published on our website and a summary reported with the outcome measures in our *Annual Report*.

Given that the relevant outcome and function performance measures are already captured elsewhere, the measures below are limited to those that demonstrate we have fulfilled our obligations for this appropriation.

22 Section 8(2) of the Electricity Industry Act 2010 states that as well as acting as system operator for the electricity industry, the system operator must (a) provide information and short- to medium-term forecasting on all aspects of security of supply; and (b) manage supply emergencies. Information about the system operator's security management role is available on its website at https://www.transpower.co.nz/system-operator/security-supply

Performance measures continued

Measure	Target	2020/21 result	2021/22 result
Electricity Authority decisions in relation to managing the security of New Zealand's electricity supply appropriation are made in accordance with the agreed process and criteria	**Process and criteria met***	**Achieved**	**N/A. The Authority did not receive any applications for funding during the 2021/22 year.**

Notes:

* We have an agreed process and criteria for the system operator to follow. For example, correct documentation is provided; appropriate sign-off by system operator management; evidence that there is an actual or emerging security event; intended actions are clearly described; and monitoring and reporting are specified.

Managing the security of New Zealand's electricity supply appropriation

Actual 2020/21 ($000)	Managing the security of New Zealand's electricity supply appropriation*	Actual 2021/22 ($000)	**Budget 2021/22 ($000)
-	Revenue from the Crown	-	**1,200**
-	Expenditure	-	**1,200**

Notes:

* This is a multi-year appropriation of $6 million over five years. Following the expiry of the current appropriation on 30 June 2022, a new appropriation has been established commencing on 1 July 2022 and expiring on 30 June 2027. This appropriation is contingent in nature and is not routinely used. To provide consistency with the appropriations contained in the Government's Estimates documents for Vote Business, Science and Innovation, annual budgeted amounts have been included in the above appropriation table. However, as it is not routinely used, no amounts in relation to this appropriation have been included in the 2021/22 budgets within the other financial statements contained in this annual report.

** The budget for 2021/22 corresponds to the Main Estimates of Appropriations for the year ending 30 June 2022.

ELECTRICITY LITIGATION FUND

What is intended to be achieved

This appropriation is intended to achieve assurance that the Electricity Authority is able to participate in litigation effectively and without delay.

Scope of appropriation

This appropriation is limited to meeting the cost of litigation activity undertaken by the Electricity Authority arising from it carrying out its functions under the Electricity Industry Act 2010.

Our functions under this appropriation

Our functions under this appropriation include defending judicial review and appeal cases taken against us, and taking enforcement action against participants under our compliance function.

Performance measures

Measure	Target	2020/21 result	2021/22 result
The Electricity Authority uses the litigation fund in accordance with the criteria for use of the fund*	**Criteria met**	**Achieved**	**Achieved. During 2021/22, the fund was used in accordance with agreed criteria for the costs and expenses.**

Notes:

* The criteria are set out in our output agreement with the Minister of Energy and Resources.

In 2021/22 the fund was primarily used to respond to Manawa Energy Limited's (formerly Trustpower) judicial review application on the Authority's June 2020 Transmission Pricing Methodology guidelines decisions. The High Court hearing of the judicial review application ran from 18-27 October 2021, and the decision to dismiss the application was made on 20 June 2022.[23] Costs incurred by the Authority in responding to the judicial review were substantially offset by court-awarded costs from Manawa Energy of $0.820 million.

The fund was also used to retain external counsel to advise and appear in respect of three formal complaints in the Rulings Panel. These formal complaints comprise one asset protection breach by the grid owner, one pricing error breach by Transpower New Zealand as the grid owner and the 9 August 2021 system operator breach.

Electricity litigation fund appropriation

Actual 2020/21 ($000)	Electricity litigation fund appropriation*	***Actual 2021/22 ($000)	**Budget 2021/22 ($000)
1,144	Funded by revenue from the Crown	132	500
660	Funded by internal reserves	-	-
1,804	Total litigation Expenditure	132	500

Notes:

* This appropriation is contingent in nature and to provide consistency with the appropriations contained in the Government's Estimates documents for Vote Business, Science and Innovation, annual budgeted amounts have been included in the above appropriation table. No amounts in relation to this appropriation have been included in the 2021/22 budgets within the other financial statements contained in this annual report.

** The budget for 2021/22 corresponds to the Main Estimates of Appropriations for the year ending 30 June 2022.

*** The appropriation for 2021/22 was increased by $1.000m at the March 2022 Baseline update.

23 On 15 July 2022, Nova Energy Limited, a supporter of Manawa Energy's challenge, submitted an appeal against the 20 June decision.

Part Three

CORPORATE GOVERNANCE

ELECTRICITY AUTHORITY BOARD

The Board is the governing body of the Authority and is responsible for promoting a competitive, reliable, and efficient electricity industry for the long-term benefit of consumers.

The Crown Entities Act 2004 sets out the collective and individual duties of the Authority Board and its members, including:

- setting the Authority's strategic direction and strategic priorities
- ensuring compliance with the Authority's internal policies and governance documents
- ensuring the Authority's actions are consistent with its objectives, functions, *Statement of Intent*, *Statement of Performance Expectations*, and output agreement (if any)
- ensuring the Authority operates in a financially responsible manner – achieving results and doing so within budget.

The Board ensures compliance with the law and is the ultimate point of accountability for all aspects of the Authority's performance.

Authority members

The Authority is made up of between five and seven members appointed by the Governor-General on the recommendation of the Minister of Energy and Resources. Members are recommended for appointment on the basis of ensuring a spread of experience and capability relating to the electricity industry, consumer issues, and business generally.

Although appointed in response to nominations, in their official capacity Board members do not represent the interests of any particular group and act independently. Members hold office for a term of up to five years and may be reappointed.

Authority members are Dr Nicola (Nicki) Crauford (Chair), Allan Dawson, Sandra Gamble, Mark Sandelin, and Lana Stockman.

All five Board members' terms expired during 2021/22. However, in line with the Crown Entities Act, once they reach the end of their term, a Board member automatically continues in their role until they are formally reappointed, or the Minister advises them that their term has come to an end.

Board member profiles are available on our website: *https://www.ea.govt.nz/about-us/who-we-are/board/*

Board profile

As of 30 June 2022, the Board had a gender split of 60 percent female and 40 percent male. Four of the Board members are based in New Zealand, while one member is based in Australia.

Board meetings

In 2021/22 the Board held 11 regular meetings, two strategy days and two days focused on stakeholder engagement. Throughout the year, there were also 11 additional Board meetings held in response to various matters, including the new transmission pricing methodology (TPM) and related judicial review, the 9 August event, and the wholesale market review.

Member	Regular Board meetings	Additional Board meetings	Board strategy days	Board stakeholder engagement days
Nicki Crauford	11/11	11/11	2/2	2/2
Allan Dawson	11/11	11/11	2/2	2/2
Sandra Gamble	10/11	3/3*	2/2	2/2
Mark Sandelin	9/11	11/11	2/2	2/2
Lana Stockman	11/11	11/11	2/2	2/2

Actual attendance/eligible to attend

* Member is recused from all discussion and decision-making on TPM matters, including litigation and implementation of the TPM guidelines. In 2021/22, eight additional Board meetings related to TPM matters.

Board committees

The Board has three committees: the Audit and Finance Committee, the Compliance Committee and the System Operations Committee.

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. Members of the Audit and Finance Committee are Mark Sandelin (Chair), Nicki Crauford, and Lana Stockman.

The Compliance Committee makes decisions on alleged breaches of the Act, various regulations and the Code. It determines appropriate enforcement responses, 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. It also makes decisions on applications for exemptions from the Code. Members of the Compliance Committee are Allan Dawson (Chair), Sandra Gamble, and Mark Sandelin.

The System Operations Committee oversees the performance monitoring of the system operator under the Code and System Operator Service Provider Agreement (SOSPA). It maintains an open channel of communication with the system operator and acts as a sounding board for Authority staff who are renegotiating or considering significant variations to the SOSPA. Members of the System Operations Committee are Sandra Gamble (Chair), Nicki Crauford, and Allan Dawson.

Committee meetings

Member	Audit and Finance Committee	Compliance Committee	System Operations Committee
Nicki Crauford	4/4	-	4/4
Allan Dawson	-	8/8 (Chair)	4/4
Sandra Gamble	-	7/8	4/4 (Chair)
Mark Sandelin	4/4 (Chair)	8/8	-
Lana Stockman	4/4	-	-

Actual attendance/eligible to attend

Board evaluation

The Board undertook a self-evaluation of its performance in September 2021, and the results were shared with the responsible Minister's representatives. A further evaluation is scheduled for February 2023 and reporting will be included in the FY2022/23 *Annual Report*.

Interests

The Board has an established conflicts of interest process to identify and manage any potential or actual conflicts. Members are required to disclose any interests under the Crown Entities Act, as well as any conflicts caused by their background or other interests. Members recuse themselves from any discussions in which their duty as a member could be compromised.

All interests are recorded and reviewed regularly, including at the start of each regular Board meeting.

At 30 June 2022, no members held permissions to act despite being interested in a matter.

Delegations

The Board delegates day-to-day management of the Authority to the Chief Executive and Senior Leadership Team. Formal reporting processes are in place to inform the Board of the use of any delegated powers.

The Delegations Policy and related schedules set out the corporate (financial and non-financial), legislative, and market design delegations within which the Chief Executive and Senior Leadership Team operate.

The Board retains ultimate authority and responsibility for the exercise of any functions and powers undertaken by delegation.

RULINGS PANEL

The Electricity Industry Act 2010 (Act) continues the Rulings Panel (the industry dispute resolution and disciplinary body established under the Electricity Governance Regulations 2003) and sets out its membership, functions and funding arrangements.

Members are appointed by the Governor-General in accordance with a recommendation from the Minister of Energy and Resources after consultation with the Minister of Justice and the Electricity Authority.

Current members are Mel Orange (Chair), Geraldine Baumann (Deputy Chair), and Lee Wilson.

TECHNICAL AND ADVISORY GROUPS

Security and Reliability Council

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 for Advisory Groups. The charter was first published in February 2011 and most recently updated in January 2017.

The Security and Reliability Council provides independent advice to the Authority on the performance of the electricity system and the system operator, and reliability of supply issues.

The independent Chair is Hon Heather Roy. The members are Paula Checketts, Barbara Elliston, Chris Ewers, Ben Gerritsen, Phil Gibson, Nanette Moreau, Nathan Strong, and Mike Underhill.

Advisory groups

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.[24]

The IPAG focuses on issues specifically related to new technologies and business models, and consumer participation. Members of the IPAG as at 30 June are John Hancock (Chair), Glenn Coates, Margaret Cooney, Allan Miller, Terry Paddy, Victoria Parker, Buddhika Rajapakse, Tim Rudkin, Andy Sibley, Corrie Stobie, Neil Williams, and Scott Willis. During the year, IPAG also farewelled member Roxanne Salton and welcomed five new members.[25]

The MDAG focuses on further evolving the 'machinery' of the electricity market. MDAG successfully delivered advice on reforming the trading conduct rules to the Authority this year. The Authority accepted the advice and has now implemented the recommendations. Members of the MDAG as at 30 June 2021 are Tony Baldwin (Chair), Paul Baker, Matthew Cleland, Stu Innes, Dr Andrew Kerr, Tony Oosten, Rebecca Osborne, Ann Whitfield, Fiona Wiseman and Al Yates. There were no changes to MDAG membership during the year.

Additional advisory and technical groups

From time to time, the Authority may establish additional ad-hoc advisory and technical groups to give independent advice and make recommendations to the Authority Board on aspects of the electricity industry. In 2021/22, no additional groups were established.

More information about the Security and Reliability Council, advisory groups and technical groups is available on the Authority website at www.ea.govt.nz/development/advisory-technical-groups/.

The Authority thanks all past and current members of the Rulings Panel, Security and Reliability Council and advisory groups for their valuable input over the years.

OPERATIONAL PROCESSES

Regulatory framework

The Act provides our overarching regulatory framework.

Our foundation documents elaborate on the framework provided by the Act and are available on our website. They are the *Interpretation of the Statutory Objective*, the *Charter for Advisory Groups* and the *Consultation Charter*.[26]

A key function is setting the rules for the market through voluntary arrangements or the Code. The *Consultation Charter* describes the process for amending the Code, including our Code amendment principles. These principles emphasise clear problem identification and quantified cost-benefit assessments, plus tie-breaker principles that apply when cost-benefit assessments are inconclusive.

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

- Crown Entities Act 2004
- Public Finance Act 1989

24 Annual reports for the IPAG and MDAG are available on the Authority website: IPAG: https://www.ea.govt.nz/development/advisory-technical-groups/ipag/annual-reports/ MDAG: https://www.ea.govt.nz/development/advisory-technical-groups/mdag/annual-reports/

25 New IPAG members in 2021/22 were: Margaret Cooney, Victoria Parker, Buddhika Rajapakse, Andy Sibley and Neil Williams.

26 The foundation documents are available at www.ea.govt.nz/about-us/strategic-planning-and-reporting/foundation-documents/

Value for money

We carefully manage our funding, balancing efforts to restrain our spending with the need to progress important work in a timely and robust fashion. We continue to work with our service providers to ensure value for money.

Improving effectiveness and efficiency crosses all functional areas. We ensure the cost-effectiveness of our work through:

- appropriation consultation – our appropriations are scrutinised through public consultation in accordance with section 129 of the Act
- robust use of planning and procurement disciplines
- assessment of proposed Code amendments and market facilitation measures – benefits and costs of proposed Code amendments and market facilitation measures are scrutinised through public consultation in accordance with our *Consultation Charter*
- joint procurement – where practicable and cost-effective, we work with other agencies on joint procurement and shared services
- taking up All-of-Government procurement offerings, where applicable.

Risk management

We have an active risk management framework encompassing strategic, organisational, health and safety, financial, and business continuity risk.

Responsibility for ensuring we manage risk is shared at Board, senior leadership team (SLT) and individual level. This responsibility is underpinned and supported by policies and registers, with oversight at SLT and Board level, and recognises everyone has a part to play to ensure we are doing the right thing.

The Board's Audit and Finance Committee advises on the quality and integrity of the financial environment including managing the relationship with the external auditor. The Committee also advises on whether appropriate governance, policies and processes are in place to ensure effective operational management of risk and the delivery and integrity of internal audit and improvement processes.

Planning and reporting

The Crown Entities Act 2004 (CEA) sets out our major planning and reporting requirements, including preparing and publishing the *SOI, SPE*, and *Annual Report*.

Each year we seek input from our stakeholders to assist with developing our statutory plans. Under section 129 of the Act, we consult levy payers on our proposed appropriations. This generally takes place over the October to December period. We use feedback received to develop appropriations recommendations to the Minister and inform our strategic planning for the year.

We also publish an *Annual Corporate Plan*, which identifies the key initiatives and development activities we intend to undertake for the year. Progress against the *Annual Corporate Plan* is reported in four-monthly increments throughout the year.

Directions issued by Ministers

New Zealand Business Number

On 10 May 2016, the Minister of State Services and Minister of Finance issued a direction under section 107 of the CEA to support a whole-of-Government approach to the New Zealand Business Number (NZBN).

The Authority has assessed all of its business systems (e.g. procurement, register of levy payers, client relationship management, and participant register) for NZBN application and made progress in implementing requirements one and two of the expectations on a Tier Three Agency.

Most work to include NZBNs in the Authority's systems was completed in previous years. In 2021/22 we released a new online Participant Register to replace the spreadsheet system. The new Participant Register includes an Application Programming Interface (API) connection to NZBN.[27]

Government Workforce Policy Statement on the Government's expectations for employment relations in the public sector

On 5 May 2021, the Minister for the Public Service issued a Government Workforce Policy Statement setting out the Government's expectations of how it wants the Public Service and most other public sector agencies to effectively manage employment relations.

The Workforce Policy priority of achieving shared goals within the fiscal context of the Government was highlighted in the COVID-19 environment, with pay restraint needing to continue to be exercised across the Public Service for the foreseeable future. This aligns with the Public Service Commissioner's letter, dated 15 June 2021, formally conveying the Workforce Policy and Pay Guidance 2021.

As an Independent Crown Entity, the Electricity Authority must have regard to the Workforce Policy and related Pay Guidance.

27 An API allows data exchange between various program components.

Part Four

ORGANISATIONAL CAPABILITY

As the organisation continues to evolve, our staff remain passionate about the contribution we make to the lives of New Zealanders and our country as a whole.

STRATEGIC CAPABILITY

Our strategic capabilities provide a foundation for external delivery and internal growth:

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 – electricity consumers, tangata whenua, 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 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.

ORGANISATIONAL CAPABILITY

Our stakeholders

We have a strong track record of working across our stakeholder groups including consumer representatives, industry participants and other government agencies to improve the service we provide. Continuous improvement is key to ensuring these relationships grow and flourish. Effective improvements for the New Zealand electricity market require strong and enduring understanding and this is the driver for all our stakeholder interactions.

Our website provides stakeholders and New Zealand consumers with a wide range of information to enhance understanding and knowledge of the electricity market, how it works, our statutory objective and how we continue to seek long-term benefits for consumers through other online and media channels. Videos and graphics on our website have seen increased engagement from consumers and an increased understanding and interest in the role of the Authority in ensuring we keep the lights on.

Our people

In recognition that people are our biggest investment for success, the Authority has matured the approach to attracting and retaining a diverse workforce that can deliver on our wide range of initiatives to the highest levels. Our Workforce Strategy has focused on equal employment opportunities, flexible and hybrid working options and individual development plans. Guidance from Diversity Works has assisted us on the journey of respectful inclusion as we have built a more culturally-, age- and gender-diverse workforce over the past 12 months.

Individuals have taken advantage of their individual training budgets and the People and Capability team provided mentoring training for current and emerging people leaders, based on requests from the cohort.

People profile

As of 30 June 2022 the Electricity Authority had a workforce of 92 fixed-term and permanent employees. At the management level (the Senior Leadership Team and people managers) the gender split was 86 percent male and 14 percent female. Further details of the Authority's people profile are included in Figure 4 below.

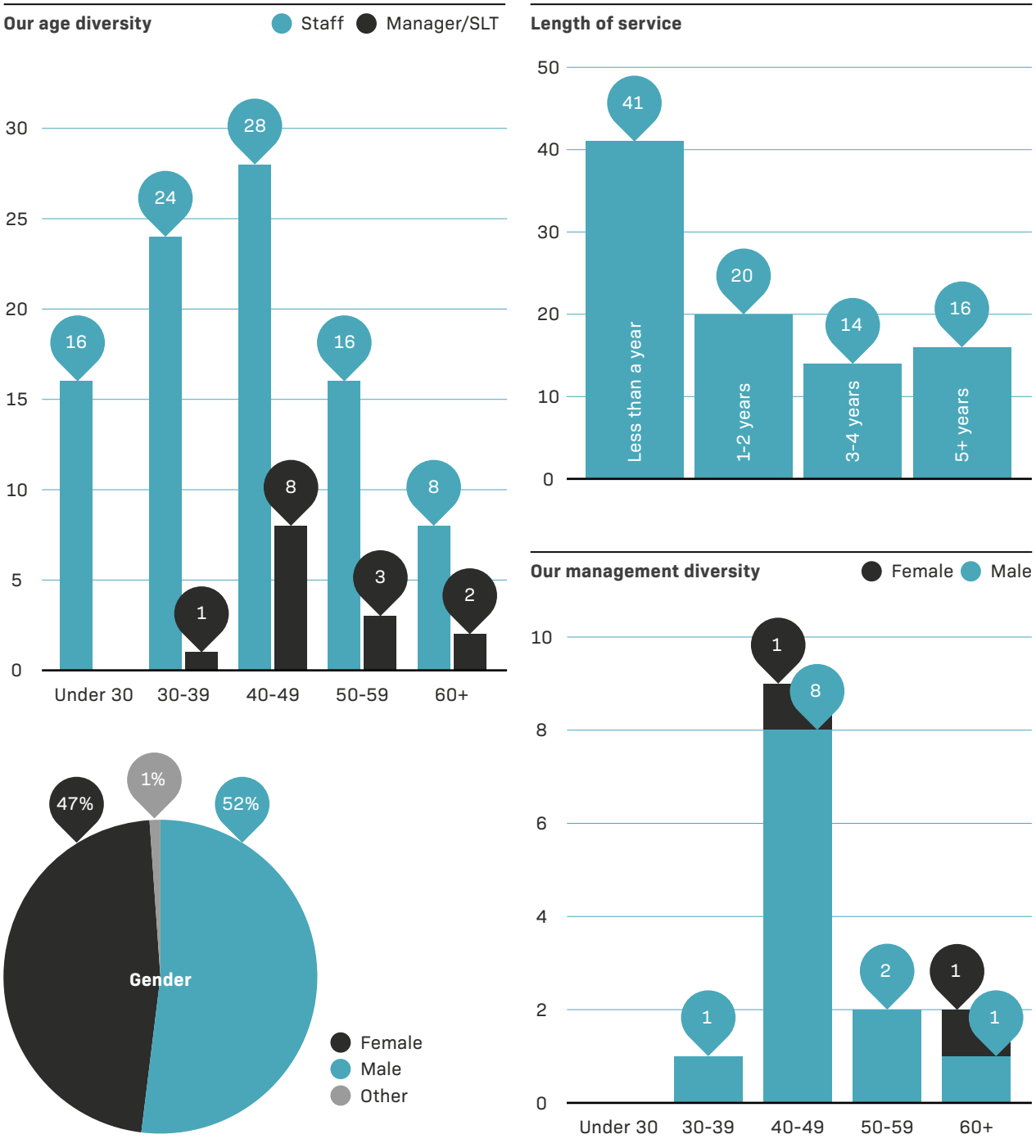


Figure 4: Electricity Authority people profile

Building our talent

To achieve great outcomes for New Zealand, our internal talent needs to grow and thrive.

The Authority has invested in a new recruitment platform to better equip hiring managers to source new talent in their teams. Hiring managers have received training in how to recruit new and develop internal candidates in a way that supports our investment in our culture, diversity and capability. Opportunities to promote internally during the year have increased collaboration, progression and retention, allowing our people to feel fully invested and empowered to do their best work.

The Authority completed a gender and pay equity exercise which resulted in only a few pay or band adjustments, indicating that hiring managers are more aware of equity issues when appointing new staff. We continue to launch initiatives to build the experience and commitment that enhances the professional maturity and craft of the Authority.

Good employer

Our people and capability processes are based on the principles of being a good employer and have been reviewed through the year, with particular emphasis on providing optimal resources for remote working, and promoting physical and mental wellbeing. These have included the standard range of staff benefits such as a one-off work-from-home set-up allowance, gym membership subsidies, a range of fun activities in line with national events such as Pink Shirt Day, and reinstating the monthly Staff Awards.

We have combined best practice with the flexibility to respond to the needs of our people both personally and professionally. We engaged with our staff for the second time using the Ask Your Team engagement survey to determine areas of improvement and where else we can work with people via feedback and focus groups to drive further beneficial changes for individuals, teams, the organisation and ultimately, consumers.

Leadership, accountability and culture

Accountability for ensuring we have the best possible people capability sits collectively with our Senior Leadership Team and people managers, supported by People and Capability. Collectively, managers have developed their skills in how to better source and retain teams who reflect the growing diversity of our wider community.

Our focus on the respectful sharing and exchange of views within and across teams has provided an environment where people feel better equipped to contribute to the important decisions that deliver outcomes for consumers and the sector. Our new performance framework reminds our people to behave ethically and professionally in everything they do to align with our values of integrity, openness, excellence, boldness, and our people.

Capability, structure, and agility

Ensuring achievement of outcomes requires organisational structures that are fit for purpose. During the first half of 2021/22, we ran a change programme to align functions within teams more efficiently, thus enhancing our ability to have the best people in the right places at the right time.

We recognise this is what will enable us to succeed in delivering quality results for consumers and the sector.

Staff turnover rates

The Authority had a turnover rate of 39 percent in 2021/22. For the previous two years the turnover rate was 29 percent (2020/21) and 34 percent (2019/20). For the three years prior to this, the turnover rate was between 14-22 percent.

In recent times, the impact of COVID-19 and a tight labour market has been felt by the Authority and the broader public sector, resulting in a relatively high turnover of staff. The Authority's turnover rate in 2021/22 is also due, in part, to the change programme we undertook, and fixed-term roles coming to an end as projects were delivered.

The Authority works hard to manage staff retention and attract the right talent to our team. Staff engagement is ahead of the public sector average and has increased year-on-year.

In the past year we have:

- reviewed our remuneration and benefits packages to ensure they are competitive in a challenging recruitment market
- improved our office working environment to encourage greater collaboration and engagement, while maintaining a flexible approach to working
- ensured development opportunities are available to our staff, through formal professional development planning with in-job training, stretch assignments mentoring and formal training. We also look to promote from within where possible.

CLIMATE CHANGE AND GREENHOUSE EMISSIONS

As an independent Crown Entity, the Authority intends to lead by example, taking active steps to measure and reduce our greenhouse gas (GHG) emissions.[28]

We have identified two areas as our main sources of GHG emissions. They are the energy we purchase and travel.

Despite border closures limiting international travel, air travel accounted for 98 percent of the Authority's emissions for the year. Air travel is considered a Scope 3, or indirect emission, i.e. it is an emission that occurs "because of the activities of the organisation, but generated from sources that it does not own or control."[29]

All GHG emissions are expressed as kilograms of carbon dioxide equivalent (kg CO_2-e) and have been calculated using the Ministry for the Environment's Measuring Emissions: A Guide for Organisations.[30]

Overall, in 2021/22 the Electricity Authority had **624,313.3 kg CO_2-e** of Scope 2 (purchased energy) and Scope 3 emissions. This was up from a total of 205,946.8 kg CO_2-e in 2020/21, due to a significant increase in domestic air travel.

The 2020/21 financial year was the first year the Authority calculated emissions. Our intention is to see a reduction in our emissions over time. However, due to COVID-19 and subsequent alert level changes, 2020/21 does not represent a 'normal' year. This means there may be some variation in our baselining process as New Zealand moves into a post-COVID-19 world. There will also be an increase in our overall carbon footprint as we continue to identify and measure new areas of emissions, simply because we are increasing the number of factors we measure.

Purchased energy

Our purchased energy is in the form of electricity used to power our offices. In 2021/22, we purchased 84,219 kilowatt hours (kWh) of energy, emitting 9,013.07 kg CO_2-e.

From March 2022 the Authority began work on its new office premises, which is reflected in the purchased energy emissions covering our existing office and new premises.

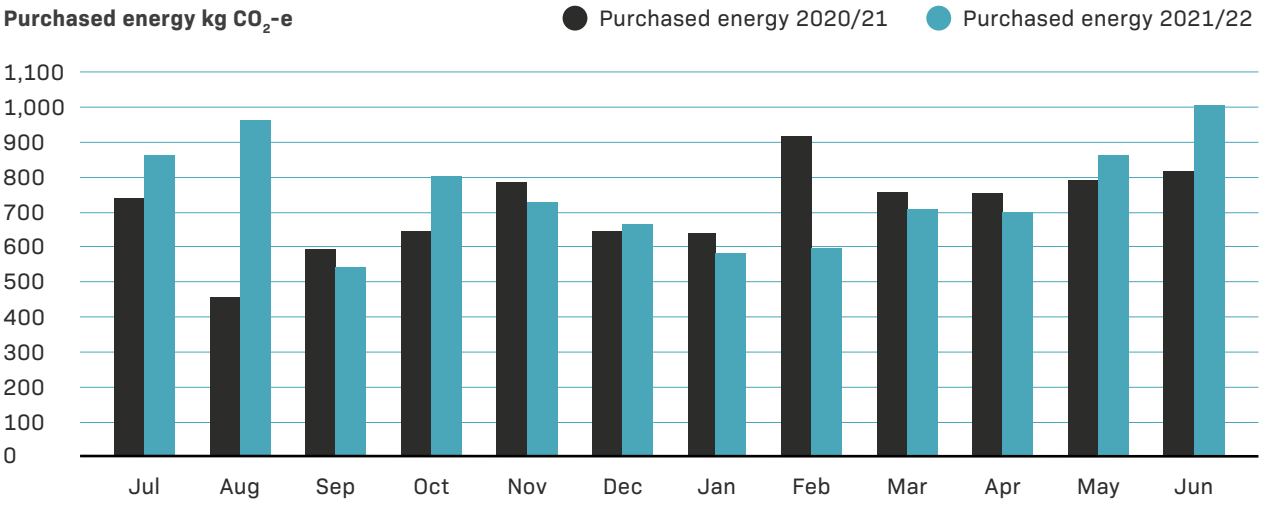


Figure 5: Purchased energy emissions (kg CO_2-e)

Air Travel

The Authority flew approximately 60,000km domestically and 10,000km internationally in 2021/22.

In June, site visits and stakeholder engagement meetings around the country caused a significant increase in travel-related emissions for the year (485,929.8 kg CO_2-e). November stakeholder engagement meetings and roadshows supporting the public consultation on the proposed transmission pricing methodology (TPM) also led to a spike in travel-related emissions (73,903.9 kg CO_2-e).

Conversely, the alert level three lockdown in August 2021 and COVID-19 protection framework level red in February 2022 saw declines in travel-related emissions in the surrounding months.

Due to COVID-19-related border closures, there was no international travel until late 2021/22, when an Australian-based Board member was able to travel to New Zealand.

28 Information on electricity sector emissions is held by the Ministry of Business, Innovation and Employment (MBIE).

29 https://environment.govt.nz/assets/Publications/Files/Measuring-Emissions-Detailed-Guide-2020.pdf

30 https://environment.govt.nz/publications/measuring-emissions-detailed-guide-2020/

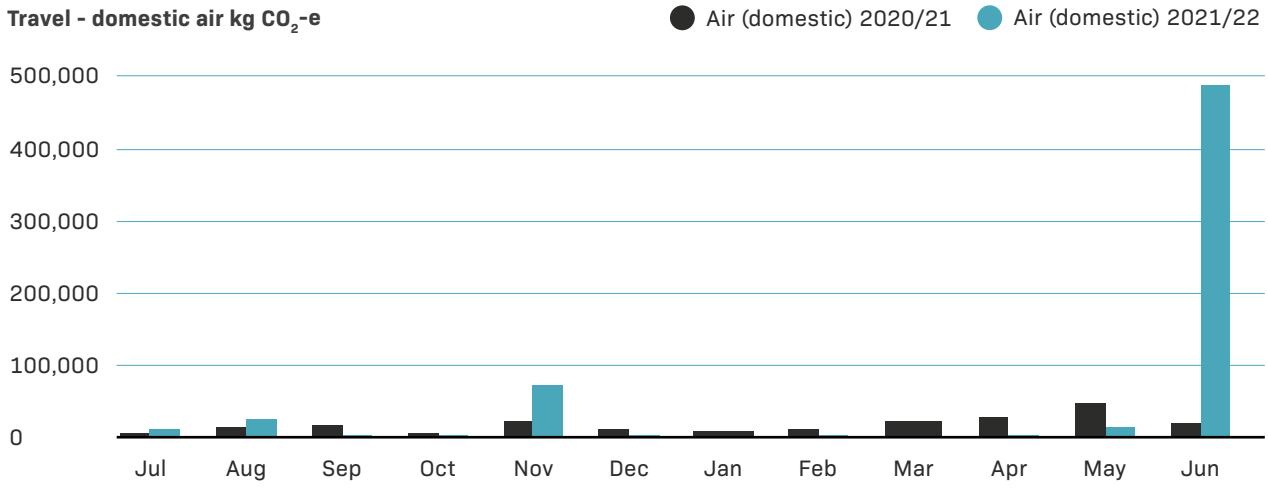


Figure 6: Domestic air travel emissions (kg CO_2-e)

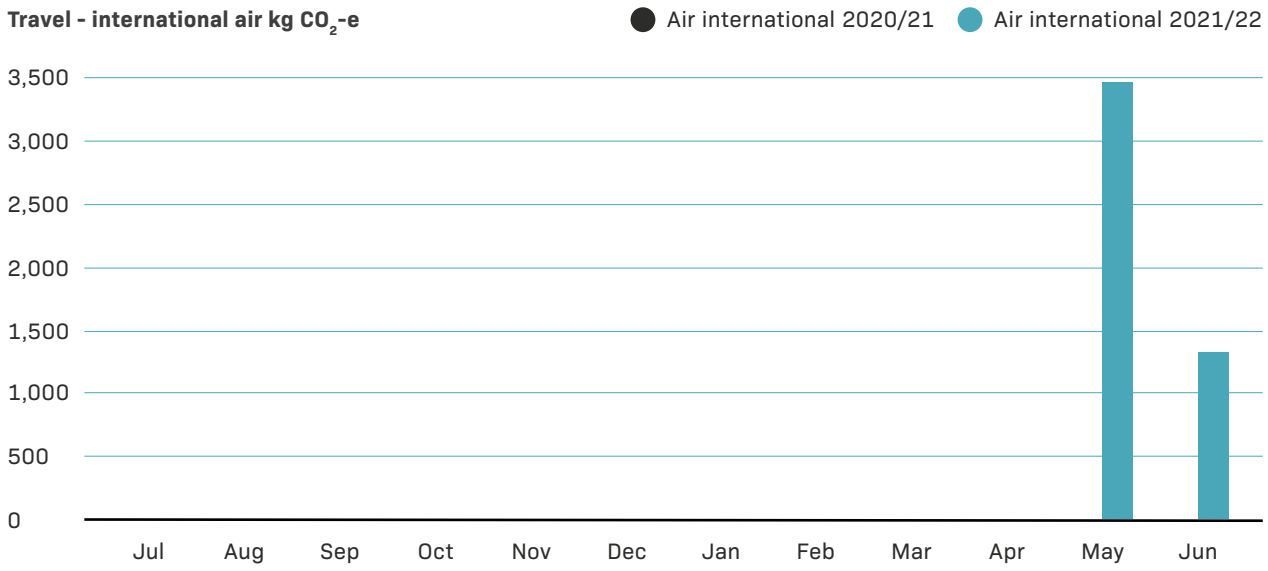


Figure 7: International air travel emissions (kg CO_2-e)

Other travel

Hotel accommodation, taxi use and other travel-related emissions comprised of less than 0.4% of measured emissions in 2021/22 (2,272.4 kg CO_2-e).

Accommodation emissions provided here include one night of international accommodation, in Australia, for 38.9 kg CO_2-e.

In direct correlation to the increase in domestic air travel, there was an increase in other travel-related emissions in June, as staff undertook site visits around the country.

2021/22 also represents the first year we have calculated other travel-related transport (outside of taxis), including the use of Uber, shuttle services, and rental cars. These made up a total of 1,040.9 kg CO_2-e.

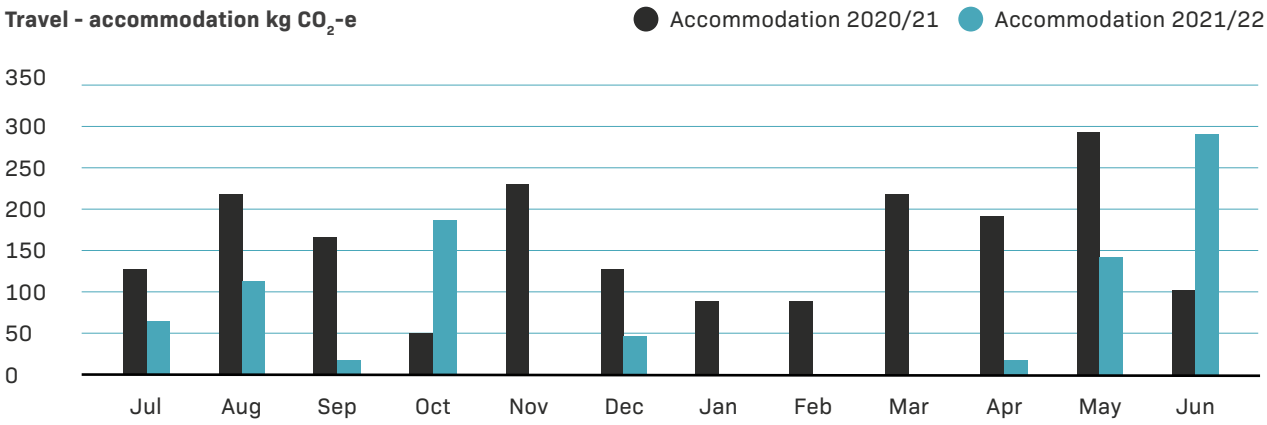


Figure 8: Accommodation emissions (kg CO_2-e)

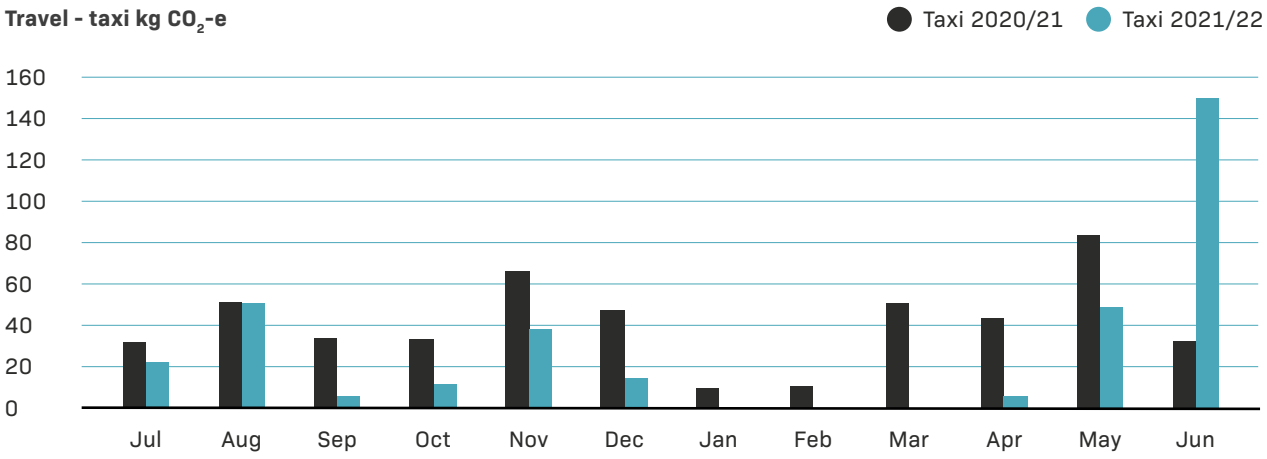


Figure 9: Taxi emissions (kg CO_2-e)

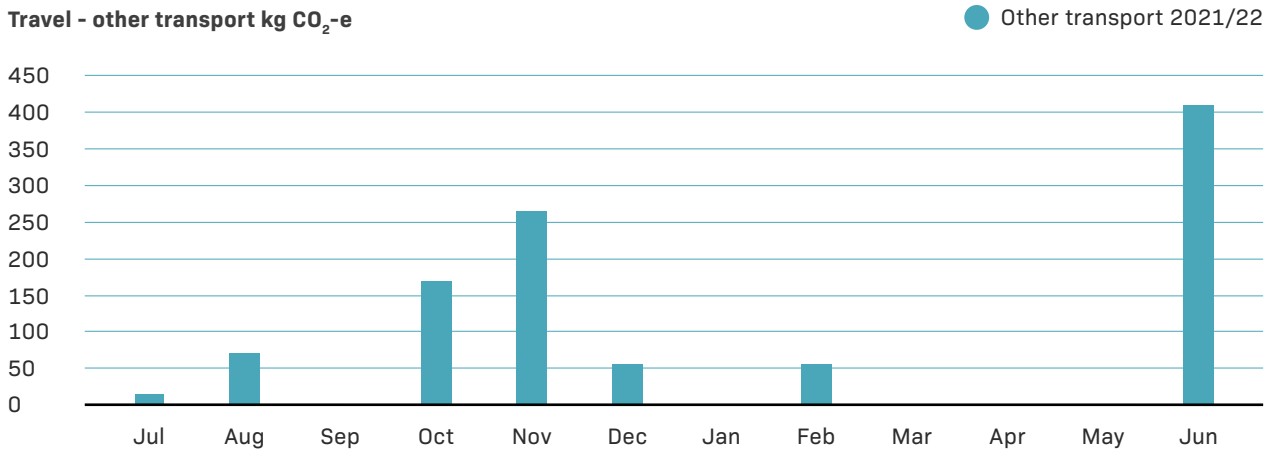


Figure 10: Other transport emissions (kg CO_2-e)

Part Five

FINANCIAL STATEMENTS

The financial statements report actual results against budget information in the Authority's 2021/22 *Statement of Performance Expectations (SPE).*

These statements are provided in accordance with section 151 of the Crown Entities Act 2004.

STATEMENT OF COMPREHENSIVE REVENUE AND EXPENSE

for the year ended 30 June 2022

Actual 2020/21 ($000)		Note	Actual 2021/22 ($000)	*Budget 2021/22 ($000)
77,771	Funding from the Crown	2	77,504	78,157
126	Interest revenue		154	300
77,897	**TOTAL REVENUE**		**77,658**	**78,457**
14,262	Personnel costs	3	14,800	13,620
1,628	Depreciation, amortisation and impairment	7,8	1,351	1,430
49,275	Service provider contracts		48,096	50,154
13,266	Other expenses	4	13,257	12,953
78,431	**TOTAL EXPENDITURE**		**77,504**	**78,157**
(534)	**TOTAL COMPREHENSIVE REVENUE AND EXPENSE**		**154**	**300**

* Budget amounts are unaudited.

The accompanying notes form part of these financial statements. Explanations for major variances to budget are provided in **Note 23.**

STATEMENT OF CHANGES IN EQUITY

for the year ended 30 June 2022

Actual 2020/21 ($000)		Note	Actual 2021/22 ($000)	*Budget 2021/22 ($000)
13,348	Balance at 1 July		12,814	13,650
(534)	Total comprehensive revenue and expense	5	154	300
12,814	**BALANCE AT 30 JUNE**		**12,968**	**13,950**

* Budget amounts are unaudited.

The accompanying notes form part of these financial statements. Explanations for major variances to budget are provided in **Note 23.**

STATEMENT OF FINANCIAL POSITION

as at 30 June 2022

Actual 2020/21 ($000)		Note	Actual 2021/22 ($000)	*Budget 2021/22 ($000)
	ASSETS			
	Current assets			
17,083	Cash and cash equivalents	6	18,661	15,480
21	Receivables and prepayments		944	100
62	GST receivable		-	-
17,166	**TOTAL CURRENT ASSETS**		**19,605**	**15,580**
	Non-current assets			
317	Property, plant and equipment	7	1,136	417
5,461	Intangible assets	8	6,901	5,053
5,778	**TOTAL NON-CURRENT ASSETS**		**8,037**	**5,470**
22,944	**TOTAL ASSETS**		**27,642**	**21,050**
	LIABILITIES			
	Current liabilities			
8,526	Payables and accruals	9	6,911	6,000
812	Employee entitlements	10	1,224	1,000
-	GST payable		442	100
644	Appropriation repayable to the Crown	11	5,670	-
130	Provisions	12	305	-
10,112	**TOTAL CURRENT LIABILITIES**		**14,552**	**7,100**
	Non-current liabilities			
18	Employee entitlements	10	20	-
-	Provisions	12	102	-
18	**TOTAL NON-CURRENT LIABILITIES**		**122**	**-**
10,130	**TOTAL LIABILITIES**		**14,674**	**7,100**
12,814	**NET ASSETS**		**12,968**	**13,950**
	EQUITY			
9,011	Contributed capital		9,011	9,011
3,803	Accumulated surplus		3,957	4,939
12,814	**TOTAL EQUITY**		**12,968**	**13,950**

* Budget amounts are unaudited.

The accompanying notes form part of these financial statements. Explanations for major variances to budget are provided in **Note 23**.

STATEMENT OF CASH FLOWS

for the year ended 30 June 2022

Actual 2020/21 ($000)		Note	Actual 2021/22 ($000)	*Budget 2021/22 ($000)
	CASH FLOWS FROM OPERATING ACTIVITIES			
78,415	Receipts from the Crown		83,174	78,157
126	Interest from investments		154	300
(1,292)	Repayment of appropriation to the Crown		(644)	-
(59,546)	Payments to suppliers		(63,487)	(64,008)
(14,269)	Payments to personnel		(14,386)	(13,620)
(178)	Goods and services tax (net)		501	(100)
3,256	**NET CASH FLOWS FROM OPERATING ACTIVITIES**	**13**	**5,312**	**729**
	CASH FLOWS FROM INVESTING ACTIVITIES			
(138)	Purchase of property, plant and equipment		(1,078)	(155)
(2,666)	Purchase of intangible assets		(2,656)	(1,440)
(2,804)	**NET CASH FLOWS FROM INVESTING ACTIVITIES**		**(3,734)**	**(1,595)**
452	**NET INCREASE IN CASH AND CASH EQUIVALENTS**		**1,578**	**(866)**
16,631	Cash and cash equivalents at beginning of year		17,083	16,346
17,083	**CASH AND CASH EQUIVALENTS AT END OF PERIOD**		**18,661**	**15,480**

* Budget amounts are unaudited.

The accompanying notes form part of these financial statements. Explanations for major variances to budget are provided in **Note 23.**

STATEMENT OF COMMITMENTS

as at 30 June 2022

Service provider agreements exist for the clearing manager, pricing manager, reconciliation manager, registry manager, wholesale and information trading system (WITS) manager, financial transmission rights (FTR) manager and system operator. The commitments included below represent the minimum payments due under the contract's notice period for termination, or the contract expiry date. The system operator agreement has no fixed expiry date and has a three-year notice period for termination. The other market operator service provider agreements are due to expire 30 June 2024.

The reconciliation manager agreement includes upgrade and improvement services to the market systems and is represented in the capital commitments.

Actual 2020/21 ($000)		Actual 2021/22 ($000)
	OPERATING COMMITMENTS	
	Service providers	
47,056	Not later than one year	52,221
103,559	Later than one year but not later than five years	101,550
150,615		**153,771**
	Building lease	
620	Not later than one year	450
128	Later than one year but not later than five years	1,837
-	Later than five years	3,588
748		**5,875**
	Other operating commitments	
1,415	Not later than one year	1,946
2,470	Later than one year but not later than five years	2,121
-	Later than five years	-
3,885		**4,067**
155,248	**TOTAL OPERATING COMMITMENTS**	**163,713**
	CAPITAL COMMITMENTS	
	Intangible assets	
453	Not later than one year	466
946	Later than one year but not later than five years	480
1,399		**946**
1,399	**TOTAL CAPITAL COMMITMENTS**	**946**

The accompanying notes form part of these financial statements.

NOTES TO THE FINANCIAL STATEMENTS

1. Accounting policies

Reporting entity

The Electricity Authority (Authority) is an independent Crown Entity as defined by the Crown Entities Act 2004 and is domiciled and operates in New Zealand. The relevant legislation governing the Authority's operations includes the Crown Entities Act 2004 and Electricity Industry Act 2010 (Act). The Authority's ultimate parent is the New Zealand Crown.

The Authority's primary role is to provide services to the New Zealand public, and it does not operate to make a financial return. Accordingly, it has designated itself a public benefit entity (PBE) for financial reporting purposes.

The financial statements for the Authority are for the period 1 July 2021 to 30 June 2022 and were approved by the Board on 8 November 2022.

Basis of preparation

The financial statements have been prepared on a going concern basis and the accounting policies have been applied consistently throughout the period.

Statement of compliance

The financial statements of the Authority have been prepared in accordance with the requirements of the Crown Entities Act 2004, which includes the requirement to comply with New Zealand generally accepted accounting practice (NZ GAAP).

The Authority is a Tier 1 entity and the financial statements have been prepared in accordance with PBE accounting standards.

Presentation currency and rounding

The financial statements are presented in New Zealand dollars rounded to the nearest thousand dollars ($000), except where otherwise stated.

Standards issued that are not yet effective and have not been early adopted

XRB issued PBE IPSAS 41 Financial Instruments in March 2019. This standard supersedes PBE IFRS 9 Financial Instruments, which was issued as an interim standard. It is effective for reporting periods beginning on or after 1 January 2022. The Authority has assessed the effect of PBE IPSAS 41 and consider this will have little to no impact on our reporting.

PBE FRS 48 replaces the service performance reporting requirements of PBE IPSAS 1 and is effective for reporting periods beginning on or after 1 January 2022. The Authority has considered how the application of PBE FRS 48 will affect its statement of service performance and is preparing to incorporate any necessary changes in its 2022/23 reporting.

Summary of significant accounting policies

Revenue

The specific accounting policies for significant revenue items are explained below.

Funding from the Crown

The Authority is primarily funded by the Crown. This funding is restricted in its use for the purpose of the Authority meeting the objectives specified in its founding legislation and the scope of the relevant appropriations of the funder.

The Authority considers there are no conditions attached to the funding and it is recognised as non-exchange revenue at the point of entitlement. Appropriations received from the Crown are recognised as revenue to the extent that expenditure has been incurred. Appropriations received but not spent are treated as a Crown creditor and shown in the statement of financial position as a provision for refund of appropriations to the Crown.

Levies

The Authority administers a levy on industry participants under the Electricity Industry (Levy of Industry Participants) Regulations 2010 (Regulations). Levies are paid directly to the Crown for reimbursement of funding provided to the Authority. Levies are not recognised as revenue in the Authority's financial statements.

Interest

Interest is earned on bank deposits and is recognised in the period to which it relates.

Operating leases

An operating lease is a lease that does not transfer substantially all the risks and rewards incidental to ownership of an asset to the lessee.

Lease payments under an operating lease are recognised as an expense on a straight-line basis over the lease term.

Cash and cash equivalents

Cash and cash equivalents include cash on hand, deposits held on-call with banks and other short-term highly liquid investments with original maturities of normally three months or less.

Receivables and prepayments

Short-term receivables are recorded at the amount due, less an allowance for credit losses.

The Authority applies the simplified expected credit loss model of recognising lifetime expected credit losses for receivables. In measuring expected credit losses, short-term receivables have been assessed on a collective basis as they possess shared credit risk characteristics. They have been grouped based on the days past due. Short-term receivables are written off when there is no reasonable expectation of recovery. Indicators that there is no reasonable expectation of recovery include the debtor being in liquidation.

Property, plant and equipment

Property, plant and equipment consist of the following asset classes: computer hardware, furniture and fittings, office equipment and leasehold improvements.

Property, plant and equipment are shown at cost, less any accumulated depreciation and impairment losses.

Additions

The cost of an item of property, plant and equipment is recognised as an asset only when it is probable that future economic benefits or service potential associated with the item will flow to the Authority and the cost of the item can be measured reliably.

Disposals

Gains and losses on disposals are determined by comparing the proceeds with the carrying amount of the asset. Gains and losses on disposals are reported net in the surplus or deficit.

Depreciation

Depreciation is provided on a straight-line basis on all property, plant and equipment at rates that will write-off the cost (or valuation) of the assets to their estimated residual values over their useful lives. The useful lives and associated depreciation rates of each asset class have been estimated as follows:

Computer hardware	3–5 years	20%–33%
Furniture and fittings	5 years	20%
Office equipment	5 years	20%
Leasehold improvements	Shorter of the unexpired lease term and useful life	

Intangible assets

Software acquisition and development

Acquired software licences are capitalised on the basis of the costs incurred to acquire and bring to use the specific software.

Costs that are directly associated with the development of software are recognised as an intangible asset when the software becomes operational. Work in progress is recognised at cost less impairment.

Staff training costs are recognised as an expense when incurred.

Costs associated with maintaining software are recognised as an expense when incurred.

Costs associated with the development and maintenance of the Authority's corporate website are recognised as an expense when incurred.

Costs associated with the implementation of software as a service products are treated as an expense.

Amortisation

The carrying value of an intangible asset with a finite life is amortised on a straight-line basis over its useful life. Amortisation begins when the asset is available for use and ceases at the date that the asset is derecognised. The amortisation charge for each financial year is recognised in the surplus or deficit. The value of additions made to an existing asset are amortised over the remaining useful life of the existing asset.

The useful lives and associated amortisation rates of each asset class are estimated as follows:

Computer software	3–17 years	6%–33%

Impairment of capital assets

The Authority does not hold any cash generating assets. Assets are considered cash generating where their primary objective is to generate a commercial return.

Non-cash generating assets

Property, plant and equipment, and intangible assets that have a finite useful life are assessed for impairment whenever events or changes in circumstances indicate that the carrying amount may not be recoverable. An impairment loss would be recognised for the amount by which the asset's carrying amount exceeds its recoverable amount. The recoverable amount is the higher of the asset's fair value less costs to sell and value in use.

Value in use is determined using an approach based on either depreciated replacement cost, restoration cost, or service units. The most appropriate approach depends on the nature of the impairment and availability of information.

If an asset's carrying amount exceeds its recoverable service amount, the asset is regarded as impaired and the carrying amount is written down to the recoverable amount. The total impairment loss is recognised in the surplus or deficit.

The reversal of an impairment loss is recognised in the surplus or deficit.

Payables and accruals

Short-term payables and accruals are recorded as exchange transactions at their face value.

Employee entitlements

Short-term employee entitlements

Employee benefits that are due to be settled within 12 months after the end of the period in which the employee renders the related service are measured based on accrued entitlements at current rates of pay.

These include salaries and wages accrued up to balance date, annual leave earned but not yet taken at balance date and sick leave.

Sick leave is recognised to the extent that compensated absences in the coming year are expected to be greater than the sick leave entitlements earned in the coming year. The amount is calculated based on the unused sick leave entitlement that can be carried forward at balance date to the extent that the Authority anticipates it likely to be used by staff to cover those future absences.

A liability and an expense are recognised for bonuses where there is a contractual obligation or a past practice that has created a constructive obligation and a reliable estimate of the obligation can be made.

Long-term employee entitlements

Employee benefits that are due to be settled beyond 12 months after the end of period in which the employee renders the related service, such as long service leave, have been calculated on an actuarial basis. The calculations are based on:

- likely future entitlements accruing to staff, based on years of service, years to entitlement, the likelihood that staff will reach the point of entitlement, and contractual entitlement information; and
- the present value of the estimated future cash flows.

Presentation of employee entitlements

Sick leave, annual leave and vested long service leave are classified as a current liability. Non-vested long service leave and retirement gratuities expected to be settled within 12 months of balance date are classified as a current liability. All other employee entitlements are classified as a non-current liability.

Superannuation schemes

Defined contribution schemes

Obligations for contributions to KiwiSaver and the State Sector Retirement Savings Scheme are accounted for as defined contribution superannuation schemes and are recognised as an expense in the surplus or deficit as incurred.

Provisions

A provision is recognised for future expenditure of uncertain timing when there is a present obligation (either legal or constructive) as a result of a past event, it is probable that expenditure will be required to settle the obligation and a reliable estimate of the amount of the obligation can be made.

Equity

Equity is measured as the difference between total assets and total liabilities. Equity is disaggregated and classified into the following components:

- contributed capital
- accumulated surplus/(deficit).

Goods and Services Tax (GST)

All items in the financial statements are presented exclusive of GST, except for receivables and payables, which are presented on a GST inclusive basis. Where GST is not recoverable as input tax, it is recognised as part of the related asset or expense.

The net amount of GST recoverable from, or payable to, the Inland Revenue Department (IRD) at balance date is included as part of receivables, current assets, or payables, current liabilities, in the statement of financial position.

The net GST paid to, or received from, the IRD, including the GST relating to investing and financing activities, is classified as a net operating cash flow in the statement of cash flows.

Commitments and contingencies are disclosed exclusive of GST.

Income tax

The Authority is a public authority and consequently is exempt from the payment of income tax. Accordingly, no provision has been made for income tax.

Budget figures

The budget is derived from the *Statement of Performance Expectations 2021/22*, as approved by the Authority's Board.

The budget figures have been prepared in accordance with Tier 1 PBE accounting standards, using accounting policies that are consistent with those adopted by the Board in preparation of the financial statements. All budget figures are unaudited.

Measurement base

The financial statements have been prepared on a historical cost basis. The accounting policies that materially affect the measurement of financial performance, financial position and cash flows are set out below and have been applied consistently to all periods presented in these financial statements.

Critical accounting estimates and assumptions

In preparing these financial statements, the Authority has made estimates and assumptions concerning the future. These estimates and assumptions may differ from the subsequent actual results. Estimates and assumptions are continually evaluated and are based on historical experience and other factors, including expectations of future events that are believed to be reasonable under the circumstances. The estimates and assumptions that have a significant risk of causing a material adjustment to the carrying amounts of assets and liabilities within the next financial year, or future financial years, are discussed below.

Impact of COVID-19

The Authority has assessed the financial statements on a line-by-line basis and has concluded that COVID-19 and the resulting lockdown period in 2021/22 had no material impact on the Authority's revenue, expenses, assets, liabilities and cashflow for financial year 2021/22.

The ongoing impacts of COVID-19 have not had and are not expected to have any impacts on the operations of the Authority.

Impairment of intangible assets

At each balance date, the impairment of intangible assets is reviewed. Assessing the appropriateness of an asset impairment requires a number of factors to be considered, such as an asset's value in use and its carrying amount versus its recoverable amount.

Impairment will affect the amortisation or impairment expense recognised in the surplus or deficit and the carrying amount of the asset in the statement of financial position.

Estimating useful lives and residual values of intangible assets

At each balance date, the estimates of useful lives and residual values of intangible assets are reviewed. Assessing the appropriateness of these estimates requires several factors to be considered, such as the condition of the assets, expected period of use of the assets by the Authority and expected disposal proceeds from the future sale of the assets.

A revision to the estimate of the useful life or residual value of an asset will affect the amortisation expense recognised in the surplus or deficit and carrying amount of the asset in the statement of financial position.

2. Crown appropriations

The Authority has been provided with funding from the Crown for specific purposes as set out in the Electricity Industry Act 2010 and in the scope of the appropriations as set out in Vote Business, Science and Innovation. Appropriations are recognised as revenue to the extent that they are spent.

	Actual 2021/22 ($000)	Actual 2020/21 ($000)
Electricity industry governance and market operations	77,372	76,627
Electricity litigation fund	132	1,144
	77,504	**77,771**

3. Personnel costs

($000)	Actual 2021/22 ($000)	Actual 2020/21 ($000)
Salaries and contractors	14,188	13,886
Contributions to defined contribution plans	528	434
Increase in annual and long service leave provision	84	(58)
	14,800	**14,262**

Contributions to defined contribution plans include contributions to KiwiSaver and the State Sector Retirement Savings Scheme.

4. Other expenses

	Actual 2021/22 ($000)	Actual 2020/21 ($000)
External work programme support	7,737	6,722
Litigation fund	132	1,804
Auditor fees for external audit	56	59
Auditor fees for other services	5	17
Advisory and working group fees (Note 17)	93	73
Board member remuneration (Note 15)	574	563
Rulings Panel remuneration (Note 16)	56	81
Operating lease expenses	898	603
Travel expenses	68	89
Other operating expenses	3,638	3,255
	13,257	**13,266**

5. Total comprehensive revenue and expense

The Authority may elect to retain interest revenue and other revenue in order to maintain an appropriate level of working capital. The Authority has exercised this option in the period 1 July 2021 to 30 June 2022.

	Actual 2021/22 ($000)	Actual 2020/21 ($000)
Interest revenue	154	126
Litigation expense funded by reserves	-	(660)
	154	**(534)**

6. Cash and cash equivalents

The carrying value of cash at bank and short-term deposits with maturities of normally three months or less approximates their fair value.

	Actual 2021/22 ($000)	Actual 2020/21 ($000)
Cash in current account	461	83
Cash on call in interest-bearing money market account	1,700	1,000
Cash on three-month term deposit*	16,500	16,000
	18,661	**17,083**

* A cash deposit of $2,500,000 with an original maturity of 109 days, with 80 days to maturity as at 30 June 2022, is considered to be highly liquid and included as a three-month term deposit.

7. Property, plant and equipment

There are no restrictions over the title of the Authority's fixed assets, nor any fixed assets pledged as security for liabilities.

	Computer hardware ($000)	Office equipment ($000)	Furniture and fittings ($000)	Leasehold improvement ($000)	Total ($000)
COST OR VALUATION:					
Balance at 1 July 2020	675	190	433	730	**2,028**
Additions	36	2	44	56	**138**
BALANCE AT 30 JUNE 2021	**711**	**192**	**477**	**786**	**2,166**
Balance at 1 July 2021	711	192	477	786	**2,166**
Additions	133	22	254	669	**1,078**
Disposals	(694)	(156)	(307)	(786)	**(1,943)**
BALANCE AT 30 JUNE 2022	**150**	**58**	**424**	**669**	**1,301**
ACCUMULATED AMORTISATION:					
Balance at 1 July 2020	544	87	374	691	**1,696**
Depreciation expense	79	29	18	27	**153**
BALANCE AT 30 JUNE 2021	**623**	**116**	**392**	**718**	**1,849**
Balance at 1 July 2021	623	116	392	718	**1,849**
Depreciation expense	37	27	21	50	**135**
Eliminate on disposal	(636)	(118)	(297)	(768)	**(1,819)**
BALANCE AT 30 JUNE 2022	**24**	**25**	**116**	**-**	**165**
NET CARRYING VALUE:					
At 1 July 2020	131	103	59	39	**332**
At 30 June 2021 and 1 July 2021	88	76	85	68	**317**
AT 30 JUNE 2022	**126**	**33**	**308**	**669**	**1,136**

8. Intangible assets

There are no restrictions over the title of the Authority's intangible assets, nor any intangible assets pledged as security for liabilities.

	Work in progress ($000)	Software and systems ($000)	Total ($000)
COST OR VALUATION:			
Balance at 1 July 2020	714	29,513	**30,227**
Additions	2,666	-	**2,666**
Transfers	(829)	829	**-**
BALANCE AT 30 JUNE 2021	**2,551**	**30,342**	**32,893**
Balance at 1 July 2021	2,551	30,342	**32,893**
Additions	2,656	-	**2,656**
Transfers	(1,007)	1,007	**-**
Disposals	-	(624)	**(624)**
BALANCE AT 30 JUNE 2022	**4,200**	**30,725**	**34,925**
ACCUMULATED AMORTISATION:			
Balance at 1 July 2020		25,957	**25,957**
Amortisation expense		1,475	**1,475**
BALANCE AT 30 JUNE 2021		**27,432**	**27,432**
Balance at 1 July 2021		27,432	27,432
Amortisation expense		1,216	**1,216**
Eliminate on disposal		(624)	**(624)**
BALANCE AT 30 JUNE 2022		**28,024**	**28,024**
NET CARRYING VALUE:			
At 1 July 2020			**4,270**
At 30 June 2021 and 1 July 2021			**5,461**
AT 30 JUNE 2022			**6,901**

The Authority's intangible assets are comprised of acquired and developed software, systems and associated licences; the most significant of which is the software used in the operation of the electricity market. At 30 June 2022 this software had a cost of $28.640 million, net carrying value of $2.241 million and an estimated remaining useful life of between three and five years.

9. Creditors and other payables

Payables and accruals are non-interest bearing and are normally settled on 30-day terms, therefore the carrying value of payables and accruals approximates their fair value.

	Actual 2021/22 ($000)	Actual 2020/21 ($000)
Creditors	1,042	1,540
Accrued expenses	5,869	6,986
	6,911	**8,526**

10. Employee entitlements

A provision for sick leave was calculated and assessed as immaterial. A total of $150,873 was paid during financial year 2021/22 (2020/21: $191,149) as compensation relating to cessation of employment.

	Actual 2021/22 ($000)	Actual 2020/21 ($000)
CURRENT PORTION		
Annual leave	688	599
Accrued salary	536	207
Long service leave	-	6
TOTAL CURRENT PORTION	**1,224**	**812**
NON-CURRENT PORTION		
Long service leave	20	18
TOTAL NON-CURRENT PORTION	**20**	**18**
	1,244	**830**

11. Appropriation repayable to the Crown

The Authority receives funding by way of appropriations from the Crown. The Crown is reimbursed for this funding by levies collected from industry participants.

The Authority receives its appropriations monthly according to a funding profile agreed at the start of the financial year. At the end of the year, the difference between funding drawn down and total Authority expenditure is recorded as a payable or receivable with the Crown. If all appropriations are fully drawn down, the amount will be a payable representing unspent funding to be returned to the Crown.

	Actual 2021/22 ($000)	Actual 2020/21 ($000)
Net Crown appropriations drawn down	83,174	78,415
Litigation expense funded by reserves	-	660
Less total Authority expenditure	(77,504)	(78,431)
APPROPRIATION REPAYABLE TO THE CROWN	**5,670**	**644**

12. Provisions

	Actual 2021/22 ($000)	Actual 2020/21 ($000)
CURRENT		
Lease make-good	130	130
Onerous lease	175	-
TOTAL CURRENT PORTION	**305**	**130**
NON-CURRENT		
Lease liability	102	-
TOTAL NON-CURRENT PORTION	**102**	**-**
	407	**130**

The lease make-good provision is for the removal of leasehold improvements or additions at termination of tenancy in September 2022.

The onerous lease is provision for the lease payments due up until the expiry of the Harbour Tower, 2 Hunter Street, Wellington lease in September 2022.

The non-current lease liability is to spread the initial lease holiday for the new lease at Level 7, Aon Centre, 1 Willis Street over the life of the lease.

13. Reconciliation of net operating surplus to net cash flows

	Actual 2021/22 ($000)	Actual 2020/21 ($000)
Net operating surplus	**154**	**(534)**
ADD NON-CASH ITEMS		
Depreciation, amortisation and impairment	1,351	1,628
Disposal of fixed assets	127	-
Increase in non-current employee entitlements	2	-
TOTAL NON-CASH ITEMS	**1,480**	**1,628**
ADD MOVEMENTS IN WORKING CAPITAL ITEMS		
(Increase)/decrease in receivables and prepayments	(923)	33
Increase/(decrease) in GST payables	501	(178)
(Decrease)/increase in payables and accruals	(1,615)	2,832
Increase/(decrease) in employee entitlements	412	(7)
Increase in provisions	277	130
Increase/(decrease) in provision for refund of appropriation	5,026	(648)
NET WORKING CAPITAL MOVEMENTS	**3,678**	**2,162**
NET CASH FLOW FROM OPERATING ACTIVITIES	**5,312**	**3,256**

14. Employee remuneration

Remuneration band	Actual 2021/22 ($000)	Actual 2020/21 ($000)
$100,000–$109,999	8	4
$110,000–$119,999	4	6
$120,000–$129,999	5	4
$130,000–$139,999	3	7
$140,000–$149,999	2	5
$150,000–$159,999	4	1
$160,000–$169,999	5	4
$170,000–$179,999	3	5
$180,000–$189,999	2	2
$190,000–$199,999	1	1
$200,000–$209,999	5	3
$210,000–$219,999	2	3
$220,000–$229,999	1	1
$230,000–$239,999	-	-
$240,000–$249,999	-	-
$250,000–$259,999	-	2
$260,000–$269,999	2	2
$270,000–$279,999	1	1
$280,000–$289,999	1	-
$370,000–$379,999	1	1
	50	**52**

15. Board member remuneration

No Board members received compensation or other benefits in relation to cessation (2021: none). The Authority has directors' and officers' liability and professional indemnity insurance cover in respect of the liability or costs of Board members and employees.

		Actual 2021/22 ($000)	Actual 2020/21 ($000)
Dr Brent Layton	Board Chair – retired 31 October 2020	-	43
Dr Nicola Crauford	Board Chair – appointed 1 November 2020	235	124
Susan Paterson		(11)*	83
Allan Dawson		88	91
Sandra Gamble		89	75
Lana Stockman		103	89
Mark Sandelin		70	58
		574	**563**

Board members are committed to their current roles whilst we work with the Ministry of Business, Innovation and Employment (MBIE) to finalise any recruitment arrangements.

The Remuneration Authority, an independent body set up by Parliament, determines the remuneration received by Board members.

* Susan Paterson has a negative amount in 2021/22 due to her final timesheets for the prior year being less than what was provided for.

16. Rulings Panel remuneration

No new members were appointed during the financial year. Credit adjustment in 2021 represents over accrual from prior financial year relating to a panel member resignation.

	Actual 2021/22 ($000)	Actual 2020/21 ($000)
Mel Orange	33	44
Geraldine Baumann	7	18
Nicola Wills	-	(4)
Denis O'Rourke	7	8
Lee Wilson	9	15
	56	**81**

17. Advisory group and working group fees

Advisory groups and working groups comprise members paid by the Authority and members working in the industry who are paid by their own organisation. The members listed below are those paid by the Authority and do not represent the complete membership of each group. Credit adjustment represents credit from the prior financial year relating to two members who left the group in 2021.

		Actual 2021/22 ($000)	Actual 2020/21 ($000)
Security and Reliability Council	Heather Roy (Chair)	25	17
	Barbara Elliston	4	2
	Nanette Hammond	6	2
Market Development Advisory Group	Tony Baldwin (Chair)	18	9
	Ann Whitfield	2	2
	Al Yates	-	(3)
Innovation and Participation Advisory Group	John Hancock (Chair)	18	22
	Allan Miller	5	7
	Rosalind Archer	-	(1)
	Tim Rudkin	6	3
	Scott Willis	7	8
	Roxanne Salton	2	5
		93	**73**

18. Related party transactions

The Authority is a wholly owned entity of the Crown and receives funding by way of appropriations from the Crown.

Related party disclosures have not been made for transactions with related parties that are within a normal supplier or client/recipient relationship on terms and conditions no more or less favourable than those that it is reasonable to expect the Authority would have adopted in dealing with the party at arm's length in the same circumstances. Further, transactions with other government agencies (for example, government departments and Crown entities) are not disclosed as related party transactions when they are consistent with the normal operating arrangements between government agencies and undertaken on the normal terms and conditions for such transactions.

Related party transactions required to be disclosed

Government-related entities

The Authority purchased system operator and technical advisory services from Transpower New Zealand Limited, as well as the provision of FTR manager services and market support services from their division Energy Market Services (EMS), for a total of $42.147 million (2021: $43.911 million).

Key management personnel compensation

Key management personnel include the Board and Senior Leadership Team (Chief Executive, Chief Operating Officer, Chief Strategy Officer, Director - Communications and Engagement, Director - Network Pricing, General Manager - Legal, Monitoring and Compliance and General Manager - Market Policy). Their remuneration and full-time equivalents were as follows:

	Actual 2021/22	Actual 2020/21
BOARD MEMBERS		
Remuneration ($000)	574	563
Full-time equivalent members	*1.54*	*1.66*
SENIOR LEADERSHIP TEAM		
Remuneration ($000)	2,155	2,006
Full-time equivalent members	*7.50*	*7.13*
TOTAL KEY MANAGEMENT PERSONNEL REMUNERATION ($000)	**2,729**	**2,569**
TOTAL FULL-TIME EQUIVALENT PERSONNEL	***9.04***	***8.79***

The full-time equivalent for Board members has been determined based on actual hours spent attending Board meetings, events or meetings representing the Authority and time spent preparing for meetings.

19. Financial instruments

The Authority is party to financial instrument arrangements as part of its everyday operations. These financial instruments include bank accounts, accounts receivable classified as financial assets at amortised cost and accounts payable classified as financial liability at amortised cost.

Financial instrument risks

Interest rate risk

Interest rate risk is the risk that the return on funds invested and the cost of borrowed funds fluctuate due to changes in market interest rates.

The Authority's exposure to interest rate risk on funds invested is limited to on-call bank deposits and term deposits, which are subject to variable interest rates.

Under the Crown Entities Act 2004, the Authority requires Ministerial approval to enter into a borrowing arrangement. The Authority has no borrowings and accordingly, there is no interest rate exposure on borrowed funds.

Credit risk

Credit risk is the risk that a third-party defaults on its obligations to the Authority, causing the Authority to incur a loss. The Authority only invests in financial institutions that have high credit ratings.

Liquidity risk

Liquidity risk is the risk that the Authority encounters difficulties raising liquid funds to meet commitments as they fall due. The Authority has a low exposure to liquidity risk as it does not enter into credit arrangements, except those available from suppliers as part of normal operating agreements and aims to maintain sufficient funds available on call to meet its liquidity requirements.

Currency risk

Currency risk is the risk that debtors and creditors due in foreign currency fluctuate because of changes in foreign exchange rates. The Authority has no significant exposure to currency risk on its financial instruments.

20. Capital management

The Authority's capital is its equity, comprised of accumulated funds and represented by net assets.

The Authority is subject to the financial management and accountability provisions of the Crown Entities Act 2004, which impose restrictions in relation to borrowings, acquisition of securities, issuing guarantees and indemnities and the use of derivatives.

The Authority prudently manages its revenues, expenses, assets, liabilities and general financial dealings to ensure it effectively achieves the objectives and purpose, while remaining a going concern.

21. Contingencies

There are no known contingent assets or liabilities (2020/21: Nil) and no guarantees under the Crown Entities Act 2004 (2020/21: Nil).

22. Post balance date events

No significant events that would materially affect the financial statements have occurred between 30 June 2022 and the date of signing the financial statements.

23. Explanation of major variances against budget

Expenditure against appropriations

Appropriations and output classes	Actual 2021/22 ($000)	Budget 2021/22 ($000)	Variance ($000)
OPERATIONAL APPROPRIATION:			
Electricity industry governance and market operations	77,372	78,157	**785**
CONTINGENT APPROPRIATIONS:			
Litigation expenses funded by appropriation	132	-	**(132)**
TOTAL	**77,504**	**78,157**	**653**

Electricity industry governance and market operations

This appropriation provides funding for the general operations of the Authority and the operation of the electricity system and market. Expenditure in 2021/22 was $0.785 million less than budget. This was primarily driven a reduction in system operator and service provider expenses of $2.058 million that is partly offset by an increase in Authority personnel costs of $1.180 million to increase our capability.

Managing the security of New Zealand's electricity supply

This appropriation is contingent in nature and provides funding to allow the management of emergency events by the system operator, if required, including increased monitoring and management responsibilities in the event of an emerging security situation and planning and running an emergency conservation campaign. No expenditure was incurred under this appropriation in 2021/22.

Electricity litigation fund

This appropriation provides funding to ensure that the regulatory body for the electricity industry is able to participate in litigation effectively and without delay. The appropriation is contingent in nature, and expenditure is only incurred if litigation arises. The cost of litigation in 2021/22 was $0.132 million which was funded by the appropriation.

Most of this cost related to a judicial review of the Authority's June 2020 transmission pricing methodology (TPM) guidelines decision initiated by Trustpower (now known as Manawa Energy) in late 2020, with five other parties then joining the proceedings. The High Court decided the case in the Authority's favour in June 2022 and Manawa Energy subsequently agreed to contribute towards the Authority's costs of litigation.

Statement of comprehensive revenue and expense

Crown appropriations

Revenue from Crown appropriations was $0.653 million lower than the budget in 2021/22. This is mainly due to the Real-Time Pricing project being deferred to outer years partially offset by an in-principal expense transfer received from 2020/21 and a $2.000 million funding increase the Authority received in Q4 2021/22, which was too late to be fully utilised during the remainder of the year.

Depreciation, amortisation and impairment

Depreciation, amortisation and impairment expenses were $0.079 million lower than budget. This was mainly due to lower system amortisation expenses due to delays in commissioning new software.

Personnel

Personnel costs were $1.180 million higher than budget. The increase in costs funded the uplift in capability across the organisation to support key initiatives and the Authority's strategy going forward.

Service provider contracts

Costs associated with the system operator and market service providers were $2.058 million lower than budget. This was driven by system operator expenses that were $1.598 million below budget due to the system operator's recovery on capital-related expenditure being lower than the maximum provided for when the budget was set; and service provider expenses were $0.460 million below budget due to actual costs being less than the budgeted CPI increase of three percent of the prior year.

Other expenses

Other expenses were $0.304 million higher than budget. This is driven by additional costs associated with the 9 August event, implementation of trading conduct rules, and the wholesale market competition review all partially offset by the Real-Time Pricing project deferred to outer years.

Statement of financial position

Cash and cash equivalents

Cash and cash equivalents were $3.181 million higher than budget. Explanation for this variance is outlined in the statement of cash flows section later in this note.

Intangible assets

Intangible assets were $1.848 million higher than budget due to spend on service provider software and the development and implementation of Authority compliance software and the website. As mentioned above the delays in commissioning the new software has meant a later start for depreciation and therefore a higher value.

Refund of appropriation to the Crown

The Authority incurred expenditure that was $5.670 million less than the amount of appropriation funding received from the Crown. This unspent funding will be returned to the Crown.

Statement of cash flows

Receipts from the Crown

The Authority received $83.174 million cash from the Crown which is made up of $78.886 million from the electricity industry governance and market operations appropriation baseline; $1.788 million received from the in-principle expense transfer received from the prior year; and $2.000 million funding increase in Q4 2021/22. An additional $0.500 million for the Litigation Fund was also received from the Crown throughout the year.

Payments to suppliers

Payments to suppliers were $0.521 million lower than budget mainly due to a decrease in contractors and using more permanent staff to deliver our services.

Cash and cash equivalents at 30 June 2022

The closing cash balance at 30 June 2022 was $3.181 million higher than budget. This was primarily due to increased funding received during the year and increasing operating cash flows.

STATEMENT OF ELECTRICITY LEVY OF INDUSTRY PARTICIPANTS

Levies collected from industry participants during the financial year are deposited into a Crown bank account administered by MBIE. A reconciliation is carried out after the end of the financial year between levies collected and expenditure to be recovered by the levy. The Crown will either provide a refund to, or request additional payment from, individual industry levy payers based on this reconciliation. Any over or under recovery of the Energy Efficiency and Conservation Authority portion of the levy is applied as an adjustment to the levy rate in future years, rather than being refunded or collected through the reconciliation process.

From 1 July 2021 to 30 June 2022 the levies collected were 0.2 per cent higher than the expenditure to be recovered. The difference is expected to be $0.201 million and will be refunded to levy payers.

The final figure may vary from this amount, and some levy payers may still be required to pay additional levies while others receive a refund, depending on whether they are generators, retailers or distributors and based on variations from estimated volumes of dispatches, sales and customer connections.

	Actual 2021/22 ($000)	Actual 2020/21 ($000)
TOTAL LEVIES COLLECTED BY THE CROWN	**83,205**	**82,550**
Electricity Authority expenditure	77,504	78,431
Energy Efficiency and Conservation Authority (EECA operations)	5,500	5,008
TOTAL EXPENDITURE TO BE RECOVERED BY LEVIES	**83,004**	**83,439**
TOTAL OWED TO LEVY PAYERS BY THE CROWN	**201**	**(889)**

INDEPENDENT AUDITOR'S REPORT

To the readers of the Electricity Authority's financial statements and performance information for the year ended 30 June 2022.

The Auditor-General is the auditor of the Electricity Authority (the Authority). The Auditor-General has appointed me, Jacques Du Toit, using the staff and resources of Audit New Zealand, to carry out the audit of the financial statements and the performance information, including the performance information for appropriations, of the Authority on his behalf.

Opinion

We have audited:

- the financial statements of the Authority on pages 66 to 87, that comprise the statement of financial position and statement of commitments as at 30 June 2022, the statement of comprehensive revenue and expense, statement of changes in equity and statement of cash flows for the year ended on that date and the notes to the financial statements including a summary of significant accounting policies and other explanatory information; and
- the performance information of the Authority on pages 16 to 56.

In our opinion:

- the financial statements of the Authority on pages 66 to 87:
  - › present fairly, in all material respects:
    - » its financial position as at 30 June 2022; and
    - » its financial performance and cash flows for the year then ended; and
  - › comply with generally accepted accounting practice in New Zealand in accordance with Public Benefit Entity Reporting Standards; and
- the performance information on pages 16 to 56:
  - › presents fairly, in all material respects, the Authority's performance for the year ended 30 June 2022, including:
    - » for each class of reportable outputs:
      - its standards of delivery performance achieved as compared with forecasts included in the statement of performance expectations for the financial year; and
      - its actual revenue and output expenses as compared with the forecasts included in the statement of performance expectations for the financial year; and
    - » what has been achieved with the appropriations; and
    - » the actual expenses or capital expenditure incurred compared with the appropriated or forecast expenses or capital expenditure.
  - › complies with generally accepted accounting practice in New Zealand.

Our audit was completed on 8 November 2022. This is the date at which our opinion is expressed.

The basis for our opinion is explained below. In addition, we outline the responsibilities of the Board and our responsibilities relating to the financial statements and the performance information, we comment on other information, and we explain our independence.

Basis for our opinion

We carried out our audit in accordance with the Auditor-General's Auditing Standards, which incorporate the Professional and Ethical Standards and the International Standards on Auditing (New Zealand) issued by the New Zealand Auditing and Assurance Standards Board. Our responsibilities under those standards are further described in the Responsibilities of the auditor section of our report.

We have fulfilled our responsibilities in accordance with the Auditor-General's Auditing Standards.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Responsibilities of the Board for the financial statements and the performance information

The Board is responsible on behalf of the Authority for preparing financial statements and performance information that are fairly presented and comply with generally accepted accounting practice in New Zealand. The Board is responsible for such internal control as they determine is necessary to enable them to prepare financial statements and performance information that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements and the performance information, the Board is responsible on behalf of the Authority for assessing the Authority's ability to continue as a going concern. The Board is also responsible for disclosing, as applicable, matters related to going concern and using the going concern basis of accounting, unless there is an intention to merge or to terminate the activities of the Authority, or there is no realistic alternative but to do so.

The Board's responsibilities arise from the Crown Entities Act 2004 and the Public Finance Act 1989.

Responsibilities of the auditor for the audit of the financial statements and the performance information

Our objectives are to obtain reasonable assurance about whether the financial statements and the performance information, as a whole, are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion.

Reasonable assurance is a high level of assurance, but is not a guarantee that an audit carried out in accordance with the Auditor-General's Auditing Standards will always detect a material misstatement when it exists. Misstatements are differences or omissions of amounts or disclosures, and can arise from fraud or error. Misstatements are considered material if, individually or in the aggregate, they could reasonably be expected to influence the decisions of readers, taken on the basis of these financial statements and the performance information.

For the budget information reported in the financial statements and the performance information, our procedures were limited to checking that the information agreed to the Authority's statement of performance expectations.

We did not evaluate the security and controls over the electronic publication of the financial statements and the performance information.

As part of an audit in accordance with the Auditor-General's Auditing Standards, we exercise professional judgement and maintain professional scepticism throughout the audit. Also:

- We identify and assess the risks of material misstatement of the financial statements and the performance information, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- We obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Authority's internal control.
- We evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by the Board.

- We evaluate the appropriateness of the reported performance information within the Authority's framework for reporting its performance.
- We conclude on the appropriateness of the use of the going concern basis of accounting by the Board and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Authority's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the financial statements and the performance information or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Authority to cease to continue as a going concern.
- We evaluate the overall presentation, structure and content of the financial statements and the performance information, including the disclosures, and whether the financial statements and the performance information represent the underlying transactions and events in a manner that achieves fair presentation.

We communicate with the Board regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

Our responsibilities arise from the Public Audit Act 2001.

Other information

The Board is responsible for the other information. The other information comprises the information included on pages 4-115, but does not include the financial statements and the performance information, and our auditor's report thereon.

Our opinion on the financial statements and the performance information does not cover the other information and we do not express any form of audit opinion or assurance conclusion thereon.

In connection with our audit of the financial statements and the performance information, our responsibility is to read the other information. In doing so, we consider whether the other information is materially inconsistent with the financial statements and the performance information or our knowledge obtained in the audit, or otherwise appears to be materially misstated. If, based on our work, we conclude that there is a material misstatement of this other information, we are required to report that fact. We have nothing to report in this regard.

Independence

We are independent of the Authority in accordance with the independence requirements of the Auditor-General's Auditing Standards, which incorporate the independence requirements of Professional and Ethical Standard 1: International Code of Ethics for Assurance Practitioners issued by the New Zealand Auditing and Assurance Standards Board.

Other than in our capacity as auditor, we have no relationship with, or interests in, the Authority.

Jacques Du Toit
Audit New Zealand

On behalf of the Auditor-General
Wellington, New Zealand

Appendix A

OUTCOME MEASURES

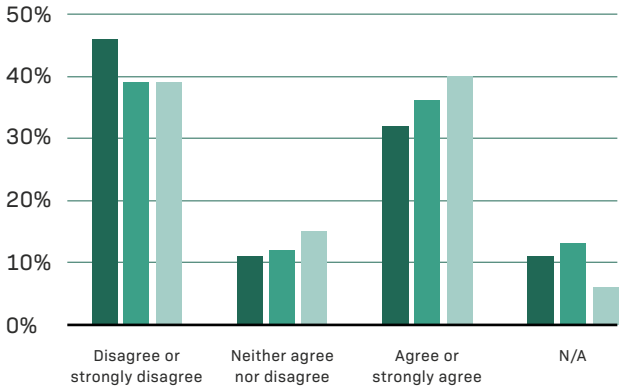
This appendix provides detailed information to support the high-level progress reported in Part 1 against the outcome measures used to assess the competition, reliability and efficiency parts of our statutory objective.

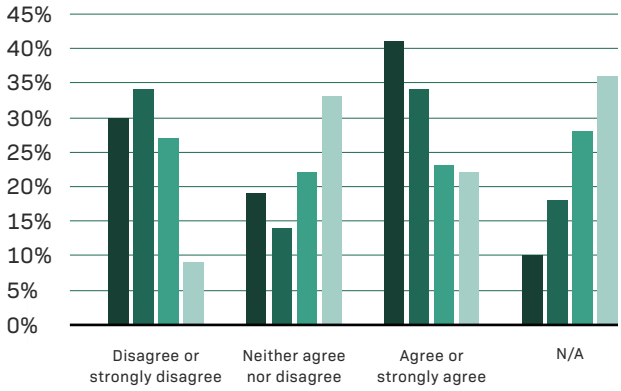
The 2021/22 financial year marks the second year reporting against updated participant and consumer perception surveys. We are now able to compare results from the previous year, however it will take time to see any longer term trends begin to form.

Many statistics in this section relate to calendar years. When a year is referred to that is not in the 20XX/XX format (e.g. 2021/22) it can be assumed that it is referring to the calendar year.

Competition

Participant perceptions



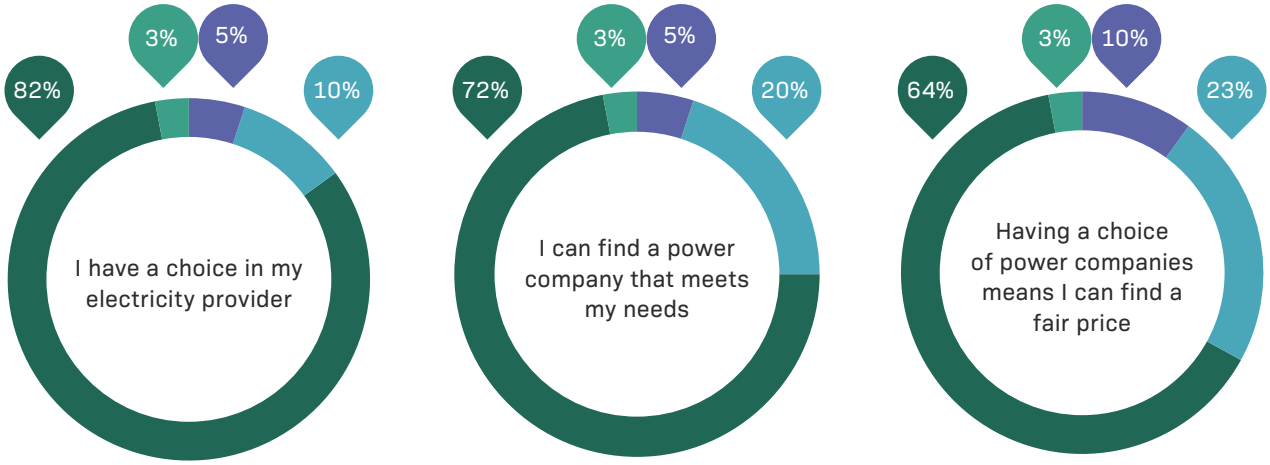


- Competition between electricity generators ensures wholesale market prices are set at an efficient level
- Competition between electricity generators ensures they build the most efficient power stations
- Competition between retailers ensures that consumer prices only rise in line with costs to the electricity companies

Prices in the following markets reflect the outcomes expected in a workably competitive market:

- Retail market
- Spot market
- Hedge market, including ASX and OTC
- Ancillary service markets

Consumer perceptions



Statistics

Retail market concentration (HHI statistic)

Sustained downward trend suggests the retail market is less concentrated. Lower concentration can indicate greater competition. A spike occurred following Mercury's acquisition of Trustpower's retail business.

Retail market share (CR4 statistic)

Sustained downward trend suggests the retail market is less concentrated. Lower concentration can indicate greater competition. A spike occurred following Mercury's acquisition of Trustpower's retail business.

Net pivotal analysis

The most net pivotal generator is still net pivotal for less than one percent of the time, with further decreases seen in 2021.

Hedge market concentration (HHI statistic)

HHIs were low overall for both monthly and quarterly contracts.

Concentration in the ancillary services market (HHI of reserves statistic)

The HHI for New Zealand remains low and stable since the introduction of the national market for reserves.

Number of retailers' approaches to consumers with offers to induce switching

In 2022, 45 percent of survey respondents had been approached one or more times in the past 24 months. Down from 53 percent in 2021.

Measure: Improved participant perceptions of the competitiveness in electricity markets

Percentage of participants who agree with a range of statements on electricity market competitiveness:

	Year	Disagree or strongly disagree	Neither agree nor disagree	Agree or strongly agree	N/A	Count (n=)[31]
Competition between electricity generators ensures wholesale market prices are set at an efficient level	**2021/22**	**46%**	**11%**	**32%**	**11%**	**114**
	2020/21	51%	9%	35%	5%	100
Competition between electricity generators ensures they build the most efficient power stations	**2021/22**	**39%**	**12%**	**36%**	**13%**	**114**
	2020/21	31%	23%	38%	8%	100
Competition between retailers ensures that consumer prices only rise in line with costs to the electricity companies	**2021/22**	**39%**	**15%**	**40%**	**6%**	**114**
	2020/21	45%	16%	35%	4%	100

Percentage of participants who agree that prices in the following electricity markets reflect the outcomes expected in a workably competitive market:

	Year	Disagree or strongly disagree	Neither agree nor disagree	Agree or strongly agree	N/A	Count (n=)
Retail market	**2021/22**	**30%**	**19%**	**41%**	**10%**	**114**
	2020/21	39%	16%	41%	4%	100
Spot market	**2021/22**	**34%**	**14%**	**34%**	**18%**	**114**
	2020/21	39%	22%	33%	6%	100
Hedge market, including ASX and OTC	**2021/22**	**27%**	**22%**	**23%**	**28%**	**114**
	2020/21	34%	29%	21%	16%	100
Ancillary service markets	**2021/22**	**9%**	**33%**	**22%**	**36%**	**114**
	2020/21	11%	41%	20%	28%	100

Measure: Improved consumer perceptions of the competitiveness of electricity markets

Percentage of consumers who agree with a range of statements on electricity market competitiveness:

	Year	Disagree or strongly disagree	Neither agree nor disagree	Agree or strongly agree	N/A	Count (n=)[32]
I have a choice in my electricity provider	**2021/22**	**5%**	**10%**	**82%**	**3%**	**1030**
	2020/21	4%	10%	84%	2%	1009
I can find a power company that meets my needs	**2021/22**	**5%**	**20%**	**72%**	**3%**	**1030**
	2020/21	7%	18%	73%	2%	1009
Having a choice of power companies means I can find a fair price	**2021/22**	**10%**	**23%**	**64%**	**3%**	**1030**
	2020/21	8%	21%	68%	3%	1009

31 The participant perception survey is sent to a random sample of ~400 industry participants and stakeholders. Count (n=) refers to the number of those survey recipients who completed the survey each year.

32 The consumer perception survey is sent to a nationally representative sample of ~1000 New Zealanders over the age of 18. Count (n=) refers to the number of survey recipients who completed the survey each year.

Measure: Overall improvement across a suite of statistics

The Herfindahl-Hirschman Index (HHI) is referred to throughout this section. An HHI provides a measure of market concentration. A decreasing HHI indicates decreasing market concentration, which can indicate greater competition. The HHI is calculated as the sum of the squares of the market share of all participants.

Further explanations of these statistics are included in the Glossary.

Retail market concentration (HHI statistics)/share (CR4 statistic)

We take a structure-conduct-performance approach to assessing competition. We use HHI (statistic 1) and concentration ratio statistics (statistic 2) as measures of concentration.

These measures help to assess the structure of the market. Figure 11 shows these measures are falling in the residential retail market. This indicates the structure of the market is improving.

Spikes in retail market concentration and share were seen early in 2022. This was likely due to Mercury NZ Limited's acquisition of Trustpower Limited's retail business, which came into effect in May 2022. Clearance for this acquisition was granted by the Commerce Commission in September 2021.[33]

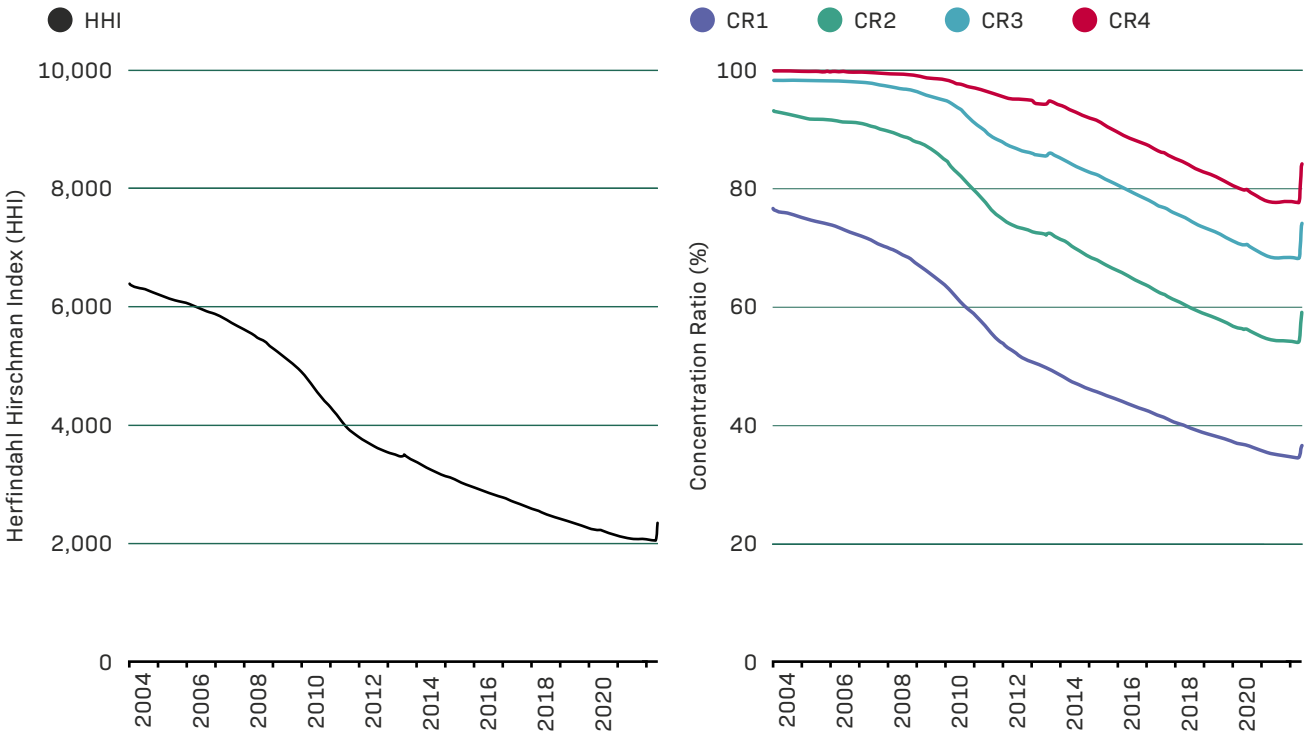


Figure 11: Retail market concentration/share (residential only) *Source: Electricity Authority*

33 https://comcom.govt.nz/news-and-media/media-releases/2021/mercury-cleared-to-acquire-trustpowers-retail-business

Generation market concentration

We also look at HHI in the area of electricity generation. Figure 12 shows the HHI is trending downward over the long-term, although there is some seasonality with the HHI falling during periods when water is scarce and climbing when water is abundant. Low inflows during 2019 and 2021 have meant the HHI has decreased as large hydro generators produce less. This increases the market share of these hydro generators, creating the increase in the HHI.

The chart shows that, while relatively stable, concentration is decreasing over the long-term.

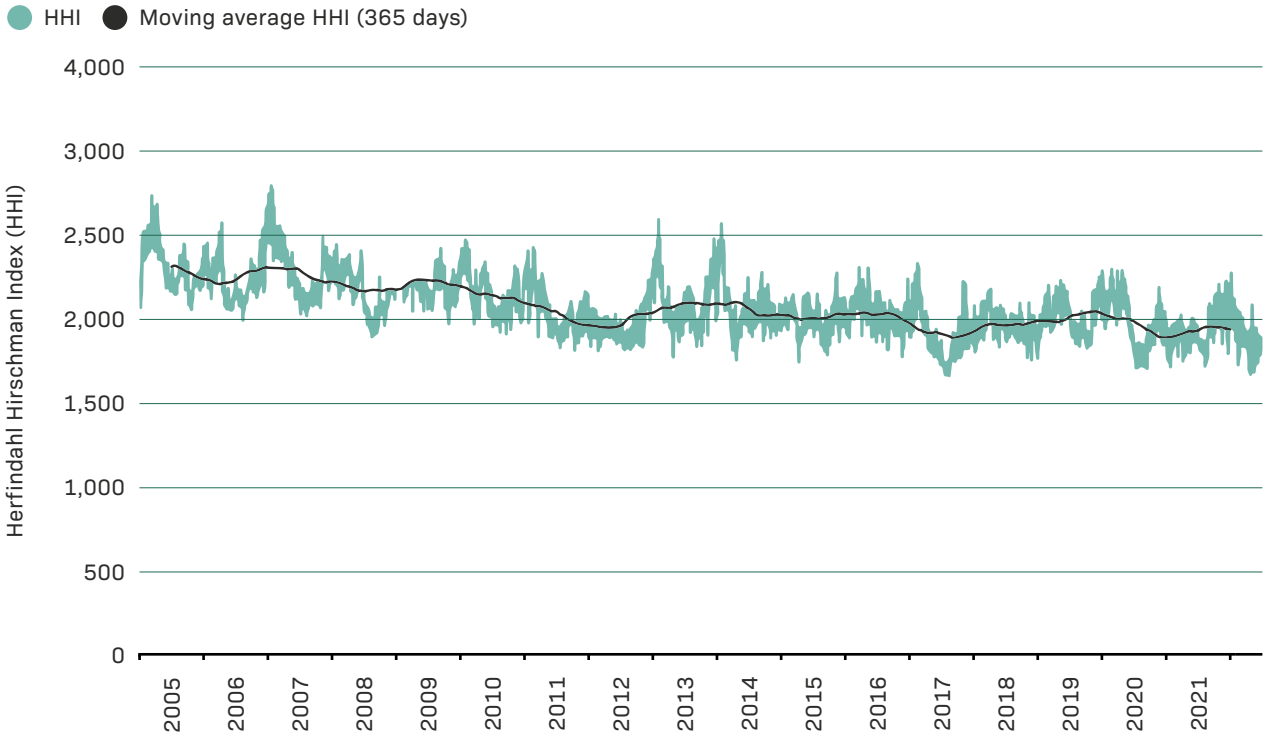


Figure 12: Generation market concentration *Source: Electricity Authority*

Net pivotal analysis

To assess conduct we look at the percentage of time that large generators are net pivotal. We use this statistic in the place of residual supply analysis.

A net pivotal generator can profitably and unilaterally raise prices, i.e. a generator is net pivotal when its generation is greater than its own retail and hedge sales in the relevant area. When a supplier is net pivotal, it has incentives to raise prices because:

- Its hedge position, including retail, provides no financial constraint
- It lacks lack competitive pressure on prices (i.e. they have market power).

This measure is calculated using a simulation where we raise a trader's generation and reserve offers to an unusually high level and calculate the amount of energy the trader would have to produce. The trader's net obligations are subtracted for this amount to calculate the residual amount of energy. Usually this provides a negative number, which means the trader would not be able to profitably increase its prices. We then measure the percentage of time a trader's residual amount of energy is a positive number. This percentage is the amount of time the trader is considered net pivotal.

Figure 13: Net pivotal analysis shows the number of times large traders are net pivotal. In the last few years, no one generator was net pivotal for more than one percent of trading periods. Genesis (North Island) is the generator who was most frequently net pivotal in 2021. Contact also had a small number of trading periods in which they were net pivotal.

Overall, the long-term trend has been downward from 2015 to 2019, with a spike in North Island generation being net pivotal in 2020 – likely due to a three-month HVDC outage in early 2020 leading to separate markets for much of that period.

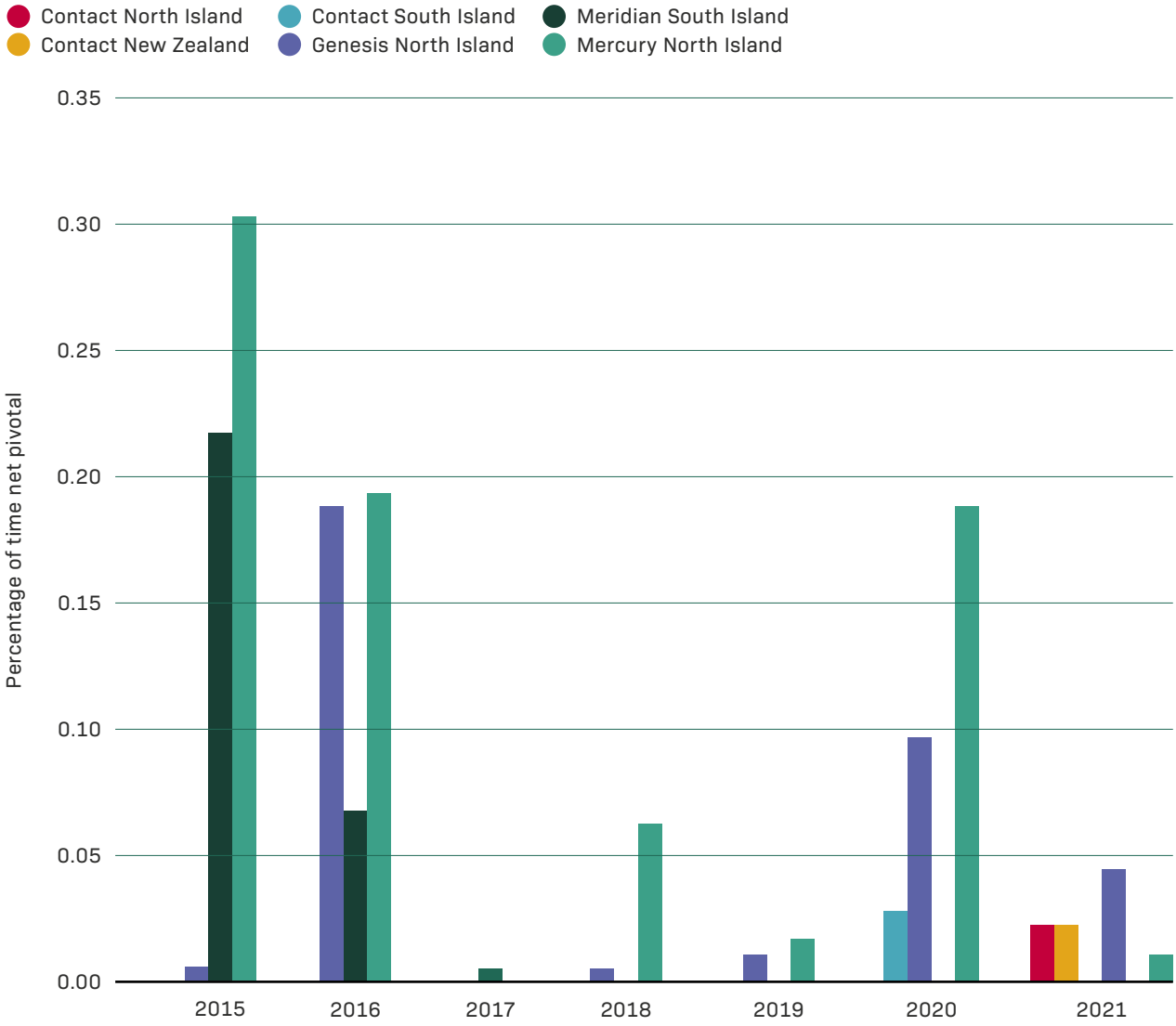


Figure 13: Net pivotal analysis *Source: Electricity Authority*

Hedge market concentration (HHI statistic)

We monitor the hedge market's HHI (statistic 4). Figures 14-17 show the HHI for hedge sellers and buyers for both monthly and quarterly ASX contracts. We monitor both buy and sell HHIs because it is possible to take a position in either direction in a hedge market. The HHI in this context is more a measure of conduct than structure. The HHI in future periods helps us monitor how positions are changing in the market.

All contracts have HHIs between 2,000 and 2,500 at 30 June 2022. Monthly contracts exhibit more volatile HHIs than quarterly contracts. This indicates that there are generally more traders within the quarterly market (seen by a more stable HHI), whereas traders move in and out of the monthly market.

Long-dated futures contracts (as seen in the quarterly HHIs) are thinly traded and at times show higher HHI than the long-term mean.

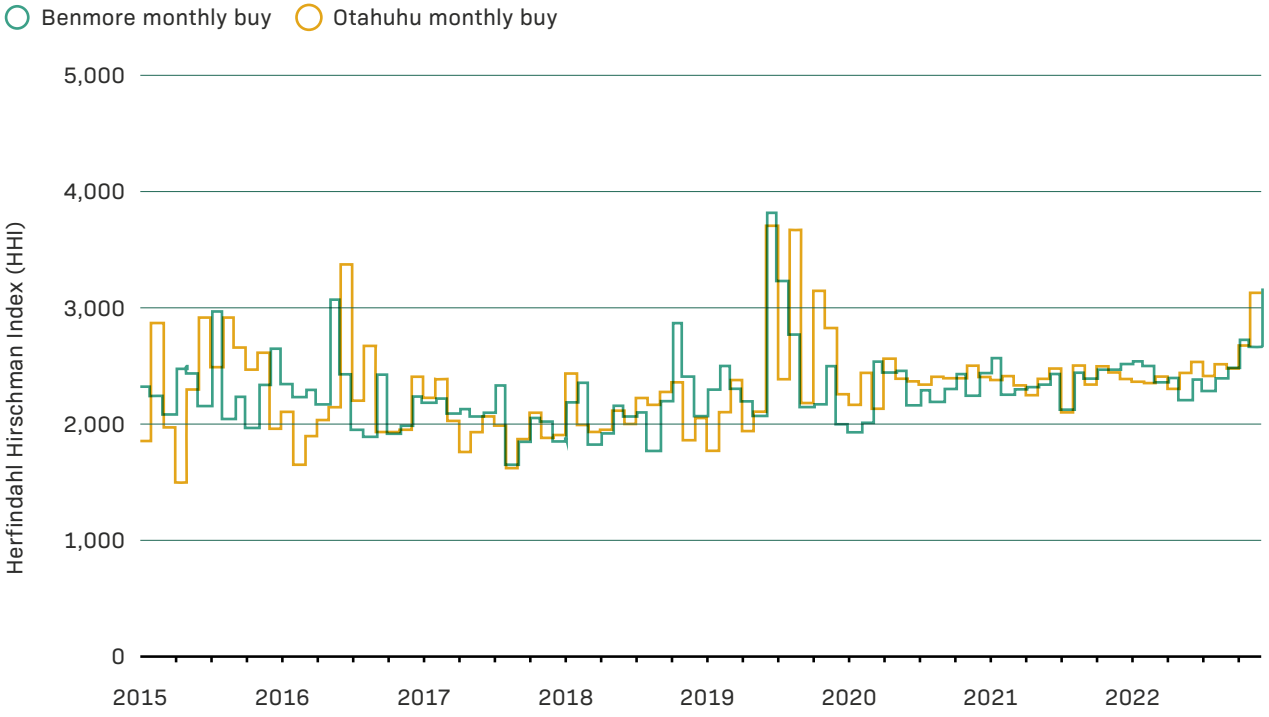


Figure 14: Hedge market concentration for monthly buyers *Source: ASX*

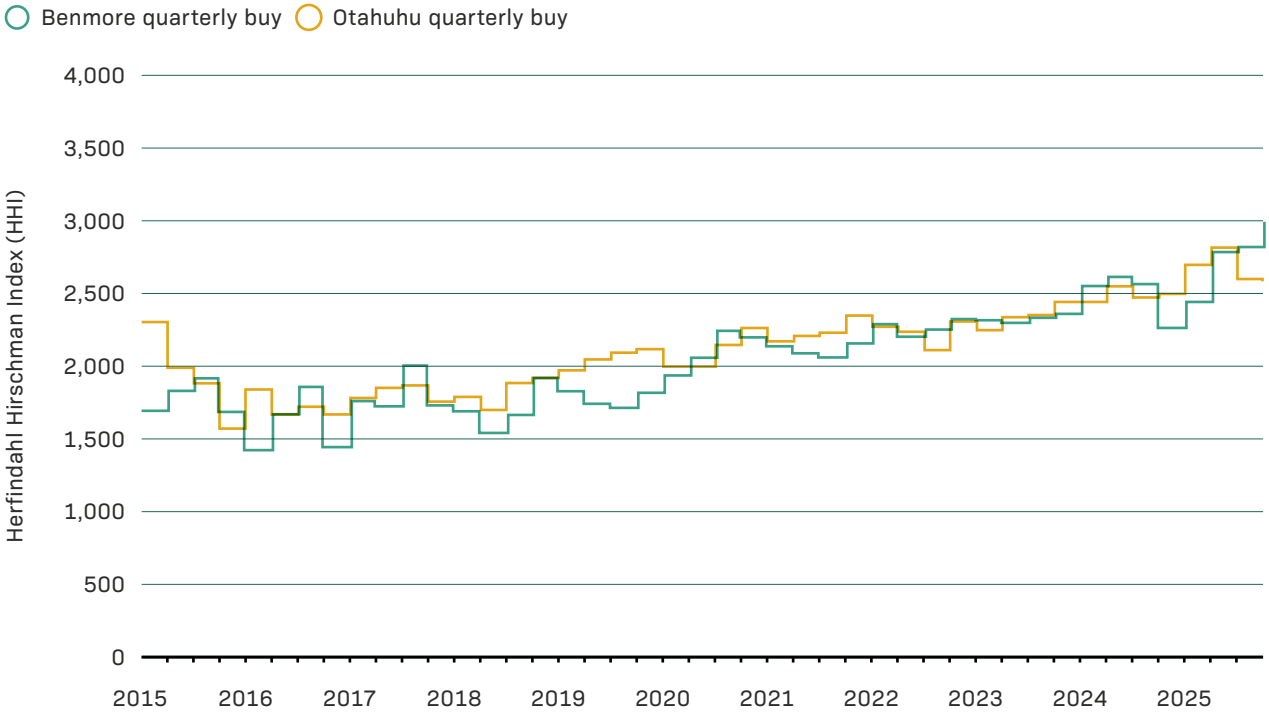


Figure 15: Hedge market concentration for quarterly buyers *Source: ASX*

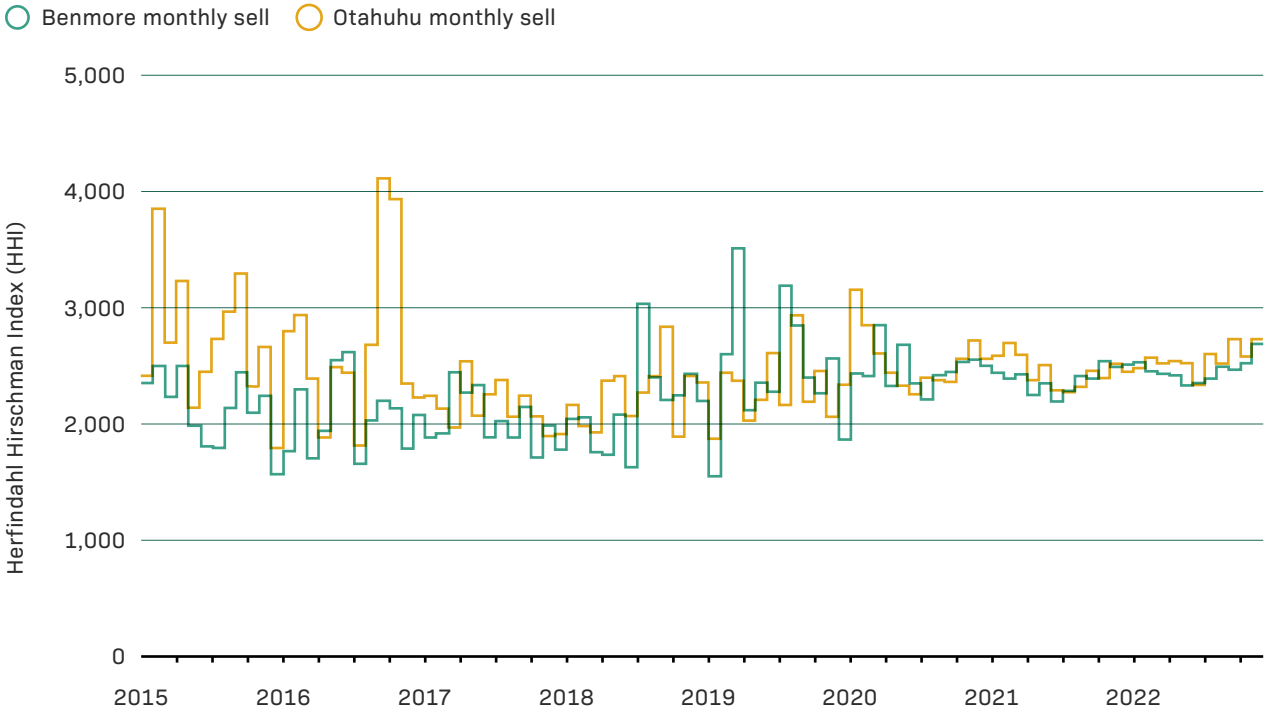


Figure 16: Hedge market concentration for monthly sellers *Source: ASX*

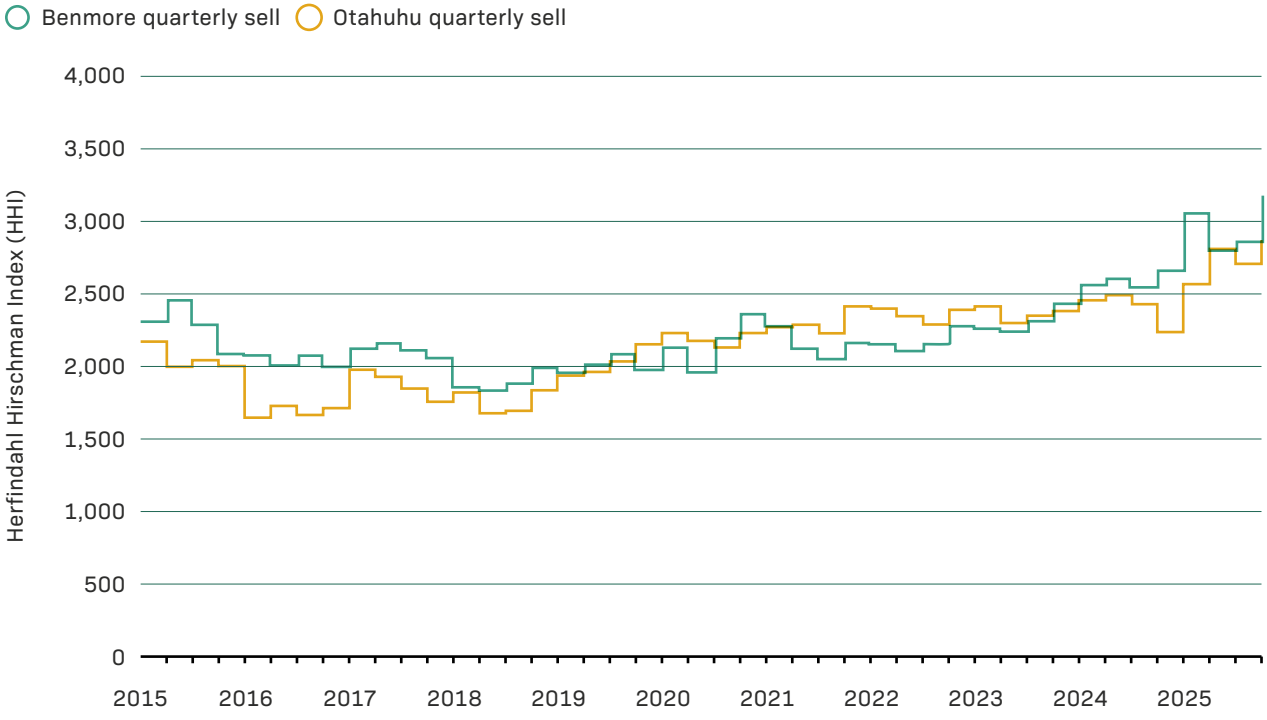


Figure 17: Hedge market concentration for quarterly sellers *Source: ASX*

Concentration in the ancillary services market (HHI of reserves statistic)

The structure of the reserves market is shown in Figure 18, which tracks the monthly HHI for the reserve markets in both islands (statistic 5).

Concentration in the reserves market has remained relatively stable long-term, with the HHI sitting between 1,500 and 2,000 for most of the 2021/22 year. There was one period where the HHI peaked over 2,000, however this was not as high as the peaks seen in 2019/20.

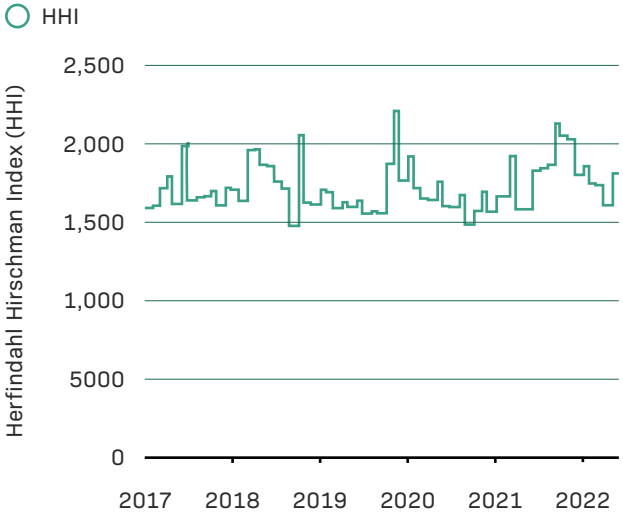


Figure 18: Reserves market concentration *Source: Electricity Authority*

Number of retailers' approaches to consumers with offers to induce switching

Figure 19 shows the number of consumers who have been approached by retailers from 2011 to 2021, whether by phone or door knocking (statistic 6). This measure indicates retailer conduct in the market.

In 2022, 45 percent of survey respondents indicated they had been approached at least one time in the past 24 months.

The green bars on the chart show the number of consumers being approached to switch retailers has decreased from a peak of 69 percent in 2014 and 2015. Since 2016 there has been a downward trend in the number of approaches made to consumers, to 45 percent of survey respondents being approached by a retailer at least once – the lowest since this measure began.

Conversely, the red bars indicate the number of consumers who have not been approached to switch electricity retailers. The 2022 result of 44 percent was the highest it has been since the measure began and represents a statistically significant increase in not approaching when compared to 2021.[34] COVID-19 and the lockdowns experienced since March 2020, as well as retailer conduct and increasing movements towards an online environment, are likely to have contributed to this change.

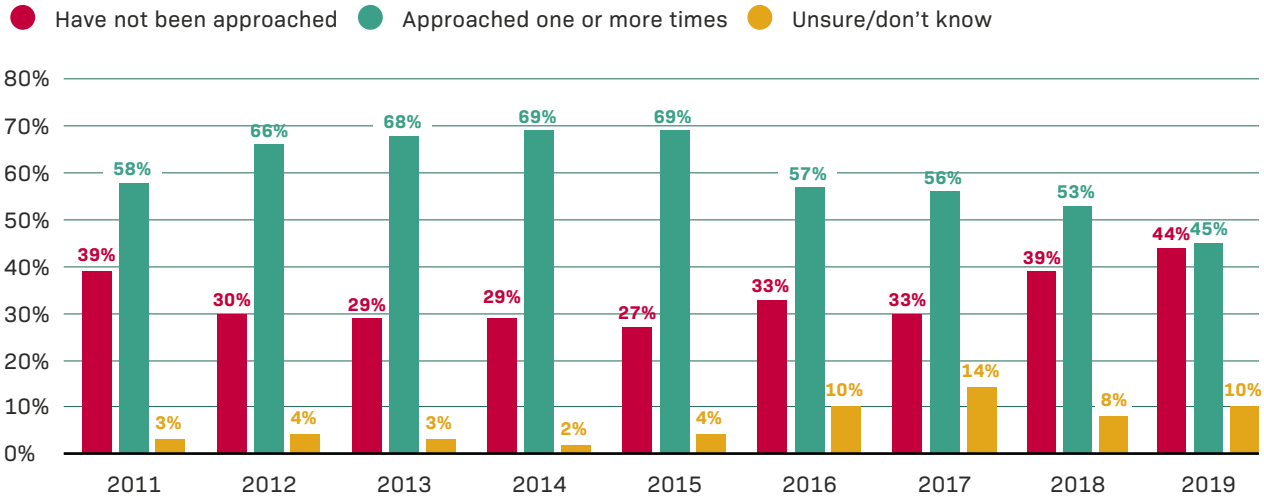
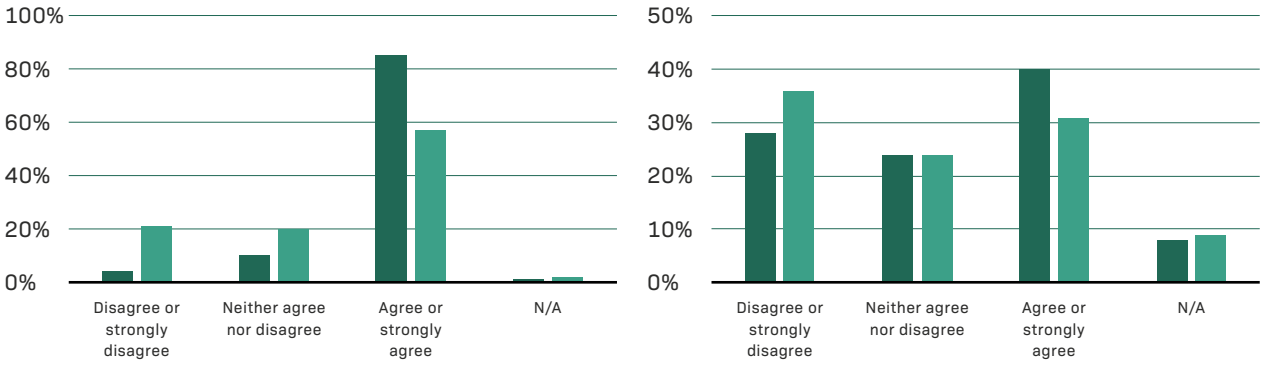


Figure 19: Approaches to residential consumers to switch retailers

34 t(2037)=2.291, p=.022 Conclusion at the 0.05 critical alpha level.

Reliability

Participant perceptions



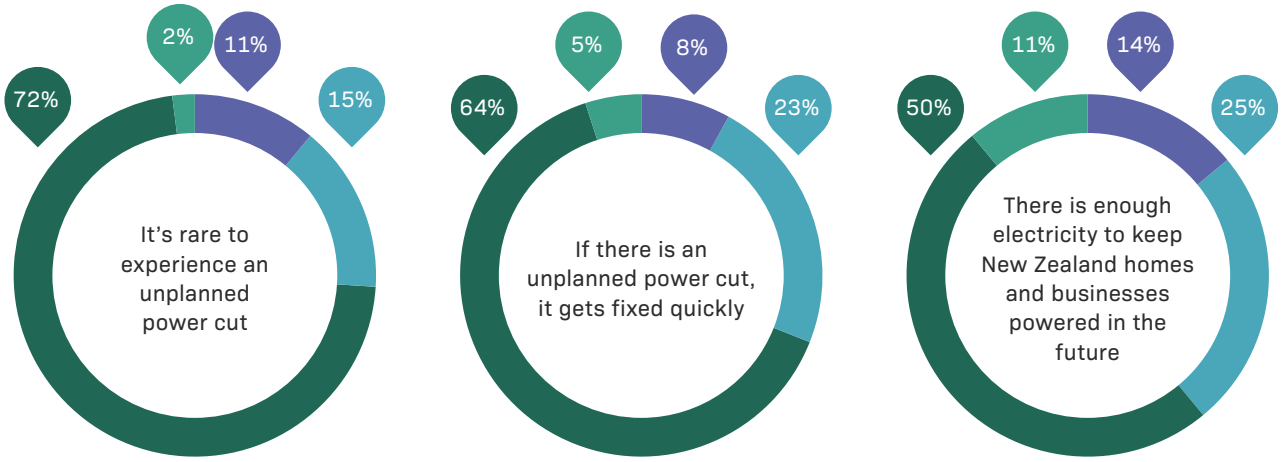
There is a reliable supply of electricity each day

There is enough electricity to meet ongoing needs

The current electricity market arrangements ensure an appropriate balance between reliability and cost

Over the next 10 years, the electricity system will strike a balance between reliability and cost

Consumer perceptions



Statistics

Pricing in scarcity events reflects opportunity costs

Investigation into an alleged UTS on 9 August 2021 found the market worked as expected, with prices reflecting the value of foregone consumption.

Effective management of dry years or emergency events

An independent review of the 2021 dry-year event was completed in 2021/22 and found the system worked as intended.

Capacity and energy margins are within efficient bounds or are moving towards those bounds

Capacity and energy margins are within the bounds set by the Board.

Investigation of reliability events does not identify systemic issues

Investigation of the 9 August 2021 event has highlighted issues that are being addressed.

Measure: Improved participant perceptions on the efficiency of supply reliability

Percentage of participants who agree with a range of statements on electricity supply reliability:

	Year	Disagree or strongly disagree	Neither agree nor disagree	Agree or strongly agree	N/A	Count (n=)
There is a reliable supply of electricity each day	**2021/22**	**4%**	**10%**	**85%**	**1%**	**114**
	2020/21	6%	7%	85%	2%	100
There is enough electricity to meet ongoing needs	**2021/22**	**21%**	**20%**	**57%**	**2%**	**114**
	2020/21	21%	18%	58%	3%	100

Measure: Improved participant perceptions of the balance between the cost and reliability trade-offs

Percentage of participants who agree with a range of statements on the balance between the cost and reliability trade-offs:

	Year	Disagree or strongly disagree	Neither agree nor disagree	Agree or strongly agree	N/A	Count (n=)
The current electricity market arrangements ensure an appropriate balance between reliability and cost	**2021/22**	**28%**	**24%**	**40%**	**8%**	**114**
	2020/21	32%	24%	40%	4%	100
Over the next 10 years the electricity system will strike a balance between reliability and cost	**2021/22**	**36%**	**24%**	**31%**	**9%**	**114**
	2020/21	29%	35%	32%	4%	100

Measure: Improved consumer perceptions of the reliability of electricity in New Zealand

Percentage of consumers who agree with a range of statements on electricity reliability:

	Year	Disagree or strongly disagree	Neither agree nor disagree	Agree or strongly agree	N/A	Count (n=)
It's rare to experience an unplanned power cut	**2021/22**	**11%**	**15%**	**72%**	**2%**	**1030**
	2020/21	10%	16%	72%	2%	1009
If there is an unplanned power cut, it gets fixed quickly	**2021/22**	**8%**	**23%**	**64%**	**5%**	**1030**
	2020/21	8%	21%	66%	5%	1009
There is enough electricity to keep New Zealand homes and business powered in the future	**2021/22**	**14%**	**25%**	**50%**	**11%**	**1030**
	2020/21	10%	23%	54%	13%	1009

Measure: Overall improvement across a suite of statistics

Further explanations of these statistics are included in the Glossary.

Pricing in scarcity events reflects opportunity costs

On 9 August 2021, New Zealand faced the largest peak demand on record because of one of the coldest nights of 2021.

The situation on 9 August rapidly escalated from a forecast generation shortfall into a challenging grid emergency with the risk of cascade failure of the grid and potentially widespread outages.

While the most extreme outcomes were avoided, the incident had a major impact on the electricity market. Approximately 34,000 customers had their supply of electricity interrupted including 17,000 in the Waikato. Scarcity pricing was applied to several trading periods, with a significant impact on final prices.

Investigation into an alleged UTS during the affected trading periods found the market acted as expected, with prices on 9 August reflecting the value of foregone consumption.[35]

Effective management of dry years or emergency events

There was some risk to security of supply heading into winter 2021, as a result of 2021 being a La Niña year, with New Zealand experiencing lower than normal levels of hydro storage, and constrained gas supplies. Eventually, the rain came and replenished the levels of hydro storage to sit above the levels that would typically be expected in the latter half of 2021.

The Authority commissioned an independent review of the dry-year event, which was completed in 2021/22. The review found the system worked as intended although there are opportunities to improve responses to dry years in the future.[36]

There were no dry-year or emergency events in 2021/22. Note the 9 August 2021 event is not considered an emergency event, as it was not a persistent shortage situation covering weeks or months.

Figure 20 shows the spot price and South Island storage as a percentage of mean storage. Prices during 2021/22 remained high until storage increased in late June 2022.

Prices spiked with the 9 August 2021 event early in the financial year and were generally higher in the latter half of the year as a result of a warm, dry summer with low wind generation.

February saw lower prices with low demand (possibly due to lower temperatures) and high wind generation. A scheduled HVDC outage starting on 17 February 2022 caused price separation between the North and South Island, with higher prices in the North Island.

Typically, you would expect to see an inverse relationship between price and storage as shown in late August, through to December.

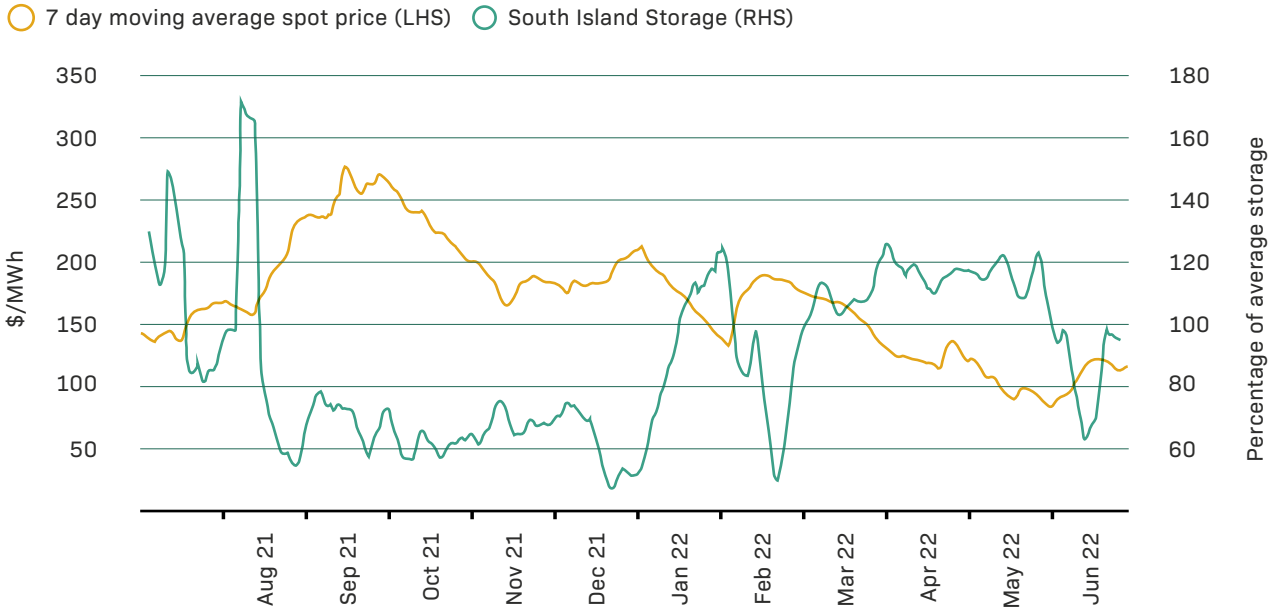


Figure 20: Management of dry years *Sources: Electricity Authority and NZX Hydro*

35 Note this decision is undergoing an appeal, which was lodged after 30 June 2022.

36 https://www.ea.govt.nz/assets/dms-assets/30/Final-Electricity-Authority-Dry-Year-Review-2021.pdf

Figure 21 shows thermal generation and total New Zealand hydro storage. It has a strong inverse relationship, where prices increase as storage falls to make it economic for thermal generators to run.

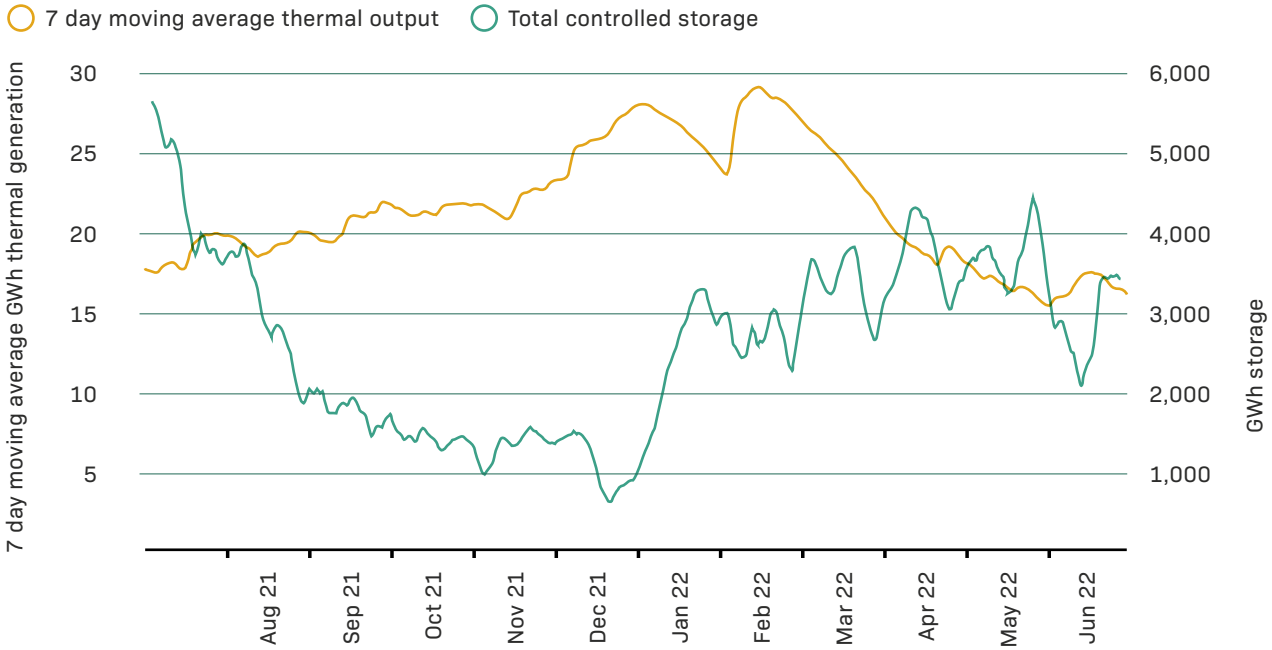


Figure 21: Thermal generation and storage *Sources: Electricity Authority and NZX Hydro*

Capacity and energy margins are within efficient bounds or are moving towards those bounds

Statistic 9 relates to capacity and energy margins. These are assessed and reported annually by the system operator.[37] The latest security of supply annual assessment (2021) indicates capacity and energy margins are within the efficient bounds set by the Board.

Investigation of reliability events does not identify systemic issues

Statistic 10 relates to investigations of reliability events. The Authority's investigation of the 9 August 2021 event has highlighted issues that are being addressed.

The Authority conducted its review into the 9 August event in two phases. The Phase 1 review (published in September 2021) focused on the system operator's demand allocation tool and communication processes and protocols.

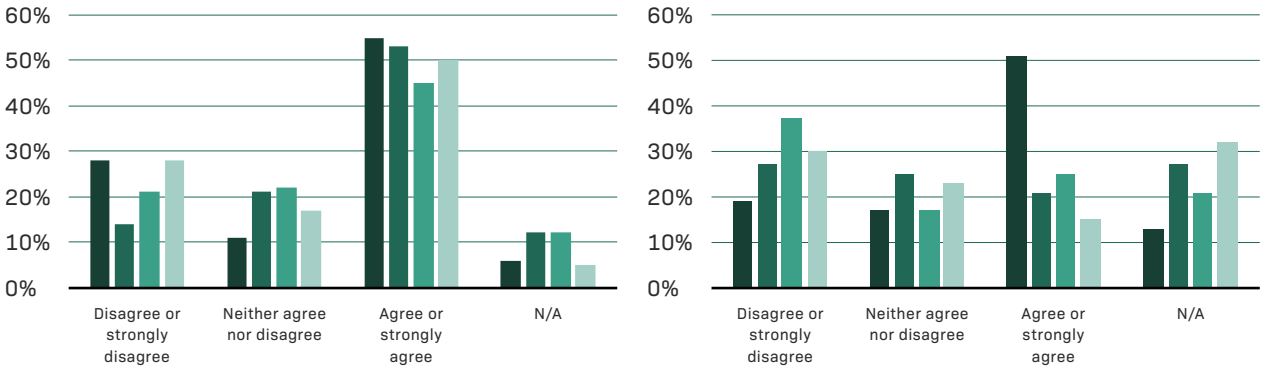
The Phase 2 review (published in April 2022) was wider in scope and provided a final summary of the various investigations, observations and recommendations which have been conducted by the Authority, Transpower and the Ministry of Business, Innovation and Employment (MBIE).[38]

37 The system operator's annual security of supply assessments are available at: www.transpower.co.nz/system-operator/security-supply/security-supply-annual-assessment

38 https://www.ea.govt.nz/monitoring/enquiries-reviews-and-investigations/2021/electricity-authority-review-of-9-august-2021-event-under-the-electricity-industry-act-2010/

Efficiency

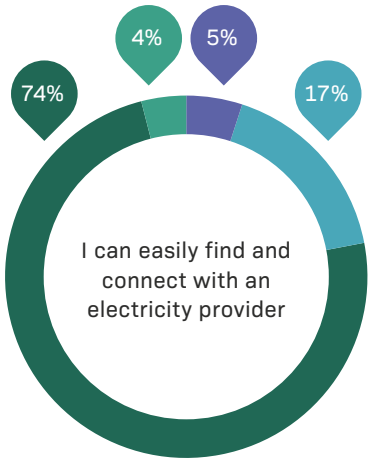
Participant perceptions

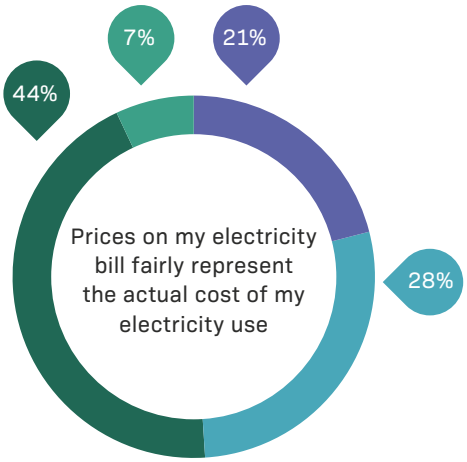


- The New Zealand electricity market ensures electricity is generated efficiently
- The New Zealand electricity market ensures electricity is distributed efficiently
- The New Zealand electricity market ensures electricity is transmitted efficiently
- Competition between electricity retailers promotes efficiency within retail operations

- New Zealand's wholesale electricity market efficiently coordinates electricity production and consumption
- New Zealand's hedge market efficiently coordinates electricity production and consumption
- New Zealand's wholesale electricity market efficiently facilitates timely investment in electricity system
- New Zealand's hedge market efficiently facilitates timely investment in electricity system

Consumer perceptions





N/A/Don't know · Disagree or strongly disagree · Neither agree nor disagree · Agree or strongly agree

Statistics

Robust futures prices

High trading volumes and open interest suggest that the forward prices are robust.

Dry year prices reflect storage levels

High prices due to low inflows were seen in Winter 2022 and were impacted by falling output from the Pohokura gas field and high international coal prices.

Exceptional prices are justified by underlying fundamentals

Investigation into an alleged UTS during the affected trading periods found the market acted as expected, with prices on 9 August reflecting the value of foregone consumption.

Reducing constrained-on compensation

Constrained-on costs have continued to fall since 2013.

Measure: Improved participant perceptions of the efficiency in electricity markets and transmission and distribution arrangements

Percentage of participants who agree with a range of statements on the efficiency in electricity markets and transmission and distribution arrangements:

	Year	Disagree or strongly disagree	Neither agree nor disagree	Agree or strongly agree	N/A	Count (n=)
The New Zealand electricity market ensures electricity is generated efficiently	**2021/22**	**28%**	**11%**	**55%**	**6%**	**114**
	2020/21	30%	12%	51%	7%	100
The New Zealand electricity market ensures electricity is transmitted efficiently	**2021/22**	**14%**	**21%**	**53%**	**12%**	**114**
	2020/21	20%	22%	49%	9%	100
The New Zealand electricity market ensures electricity is distributed efficiently	**2021/22**	**21%**	**22%**	**45%**	**12%**	**114**
	2020/21	34%	22%	40%	4%	100
New Zealand's wholesale market efficiently coordinates electricity production and consumption	**2021/22**	**19%**	**17%**	**51%**	**13%**	**114**
	2020/21	30%	16%	45%	9%	100
New Zealand's hedge market efficiently coordinates electricity production and consumption	**2021/22**	**27%**	**25%**	**21%**	**27%**	**114**
	2020/21	37%	21%	20%	22%	100
New Zealand's wholesale market efficiently facilitates timely investment in the electricity system	**2021/22**	**37%**	**17%**	**25%**	**21%**	**114**
	2020/21	33%	31%	25%	11%	100
New Zealand's hedge market efficiently facilitates timely investment in the electricity system	**2021/22**	**30%**	**23%**	**15%**	**32%**	**114**
	2020/21	35%	28%	16%	21%	100
Competition between electricity retailers promotes efficiency within retail operations	**2021/22**	**28%**	**17%**	**50%**	**5%**	**114**
	2020/21	36%	13%	49%	2%	100

Measure: Improved consumer perceptions of the efficiency of electricity in New Zealand

Percentage of consumers who agree with a range of statements on the efficiency of electricity in New Zealand:

	Year	Disagree or strongly disagree	Neither agree nor disagree	Agree or strongly agree	N/A	Count (n=)
I can easily find and connect with an electricity provider	**2021/22**	**5%**	**17%**	**74%**	**4%**	**1030**
	2020/21	4%	12%	81%	3%	1009
Prices on my electricity bill fairly represent the actual cost of my electricity use	**2021/22**	**21%**	**28%**	**44%**	**7%**	**1030**
	2020/21	20%	25%	49%	6%	1009

Measure: Overall improvement across a suite of statistics

Further explanations of these statistics are included in the Glossary.

Robust Futures prices

Figure 22 shows the hedge price (statistic 11) for the ASX June 2022 quarterly baseload hedge at Benmore and total national hydro-controlled storage. The chart demonstrates how the hedge price reflects market fundamentals.

The chart shows the 2022 Q2 hedge price increased from early 2022 as total controlled storage drops. The price reflects the underlying fundamentals, where prices spike closer to the time as there is more information on the potential supply.

Dry year prices reflect storage levels

High prices due to low inflows were seen in Winter 2022 and were impacted by falling output from the Pohokura gas field and high international coal prices.

The Authority has reviewed competition in the wholesale market and is undertaking workstreams to address the observations made. Higher competition in the market means there can be more confidence in the spot price.

The Authority continues to monitor electricity prices through the weekly trading conduct reports, undertaking and documenting further analysis on any unusual events.

Exceptional prices are justified by underlying fundamentals

Scarcity pricing was applied to several trading periods on 9 August 2021 in response to New Zealand's largest demand peak on record. This had a significant impact on final prices for those four half-hour trading periods. Investigation into an alleged UTS during those trading periods found the market acted as expected, with the application of scarcity prices on 9 August reflecting the value of foregone consumption.

The Authority continues to monitor electricity prices through the weekly trading conduct reports, undertaking and documenting further analysis on any unusual events.

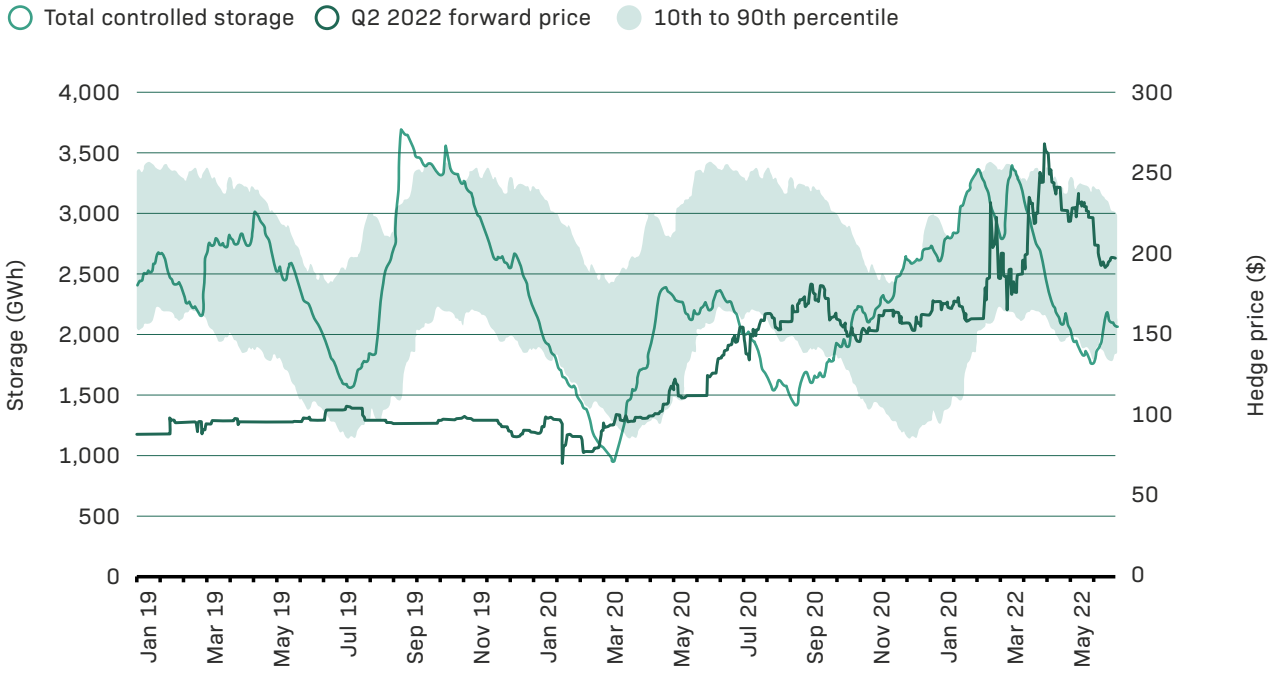


Figure 22: Futures prices *Sources: Electricity Authority and NZX Hydro*

Reducing constrained-on compensation

Figure 23 shows the total ancillary services costs (statistic 14) from 2010 to 2021 calendar years and to June 2022. It shows overall costs have fallen since 2012 with the increases seen from 2018 most likely due to high spot prices, which were examined as part of our review into wholesale market competition.

The two main components of ancillary services are frequency keeping and instantaneous reserves. These costs are affected by energy costs. The constrained-on and-off costs of these ancillary services have been falling since 2013.

Constrained-on costs are also paid in the spot market to out of merit generators in certain circumstances. This occurs when the system operator requires generators to generate during a trading period where the final price is less than the generators' offer price. The Authority introduced new Code changes in March 2020 that removed these payments for ramping generation.

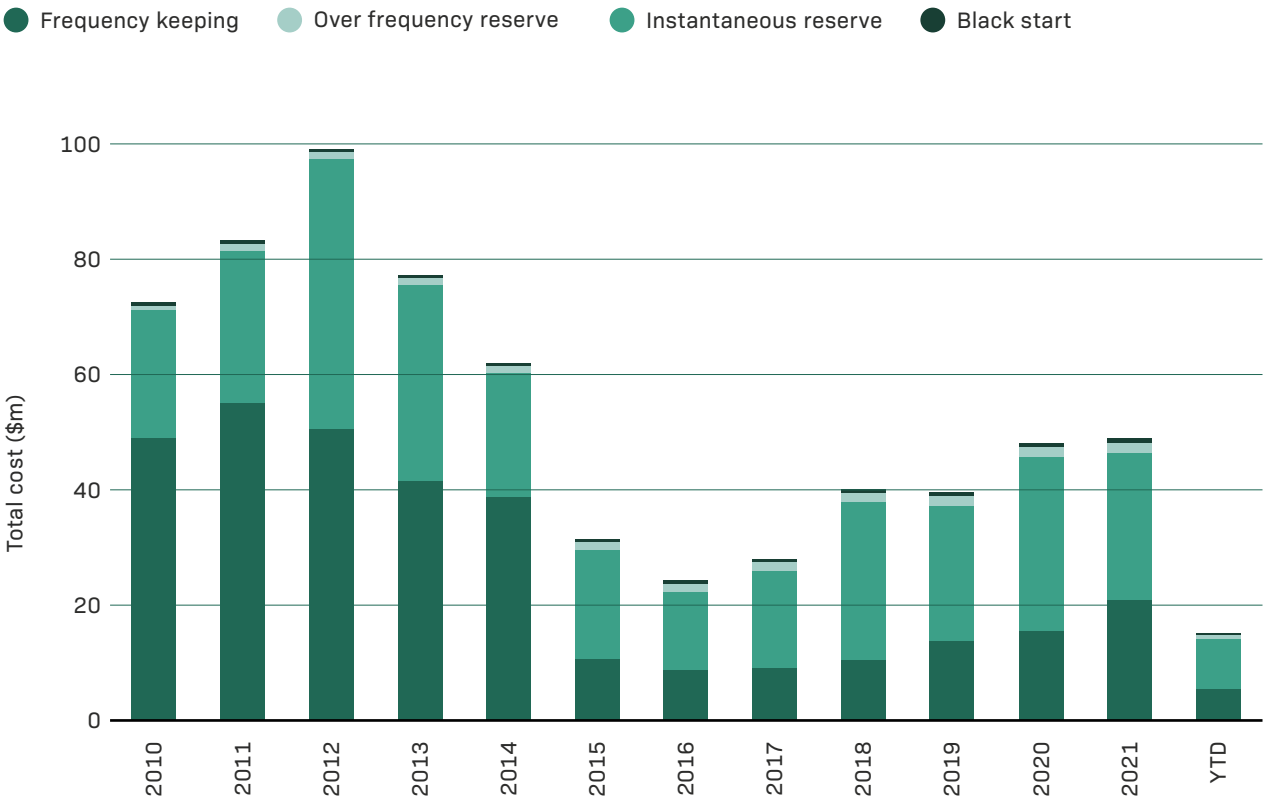


Figure 23: Ancillary services and constrained costs *Source: System operator (Transpower New Zealand Limited)*

Appendix B

SURVEY-BASED IMPACT MEASURES

Low-emissions energy

Measure: Improved participant confidence in setting to facilitate an efficient transition

Percentage of participants who agree with the following statement:

	Year	Disagree or strongly disagree	Neither agree nor disagree	Agree or strongly agree	N/A	Count (n=)
Electricity market settings will support an efficient transition of the energy sector to low emissions	**2021/22**	**33%**	**27%**	**33%**	**7%**	**114**
	2020/21	38%	16%	37%	9%	100

Measure: Improved participant confidence in reliability as New Zealand transitions to low-emissions energy

Percentage of participants who agree with the following statement:

	Year	Disagree or strongly disagree	Neither agree nor disagree	Agree or strongly agree	N/A	Count (n=)
The electricity system will maintain reliability through the transition to low-emissions energy	**2021/22**	**21%**	**21%**	**52%**	**6%**	**114**
	2020/21	26%	19%	48%	7%	100

Consumer centricity

Measure: Improved participant perceptions in the electricity system's ability to meet consumers' ongoing needs

Percentage of participants who agree with the following statements:

	Year	Disagree or strongly disagree	Neither agree nor disagree	Agree or strongly agree	N/A	Count (n=)
The electricity industry is meeting consumers' needs	**2021/22**	**41%**	**9%**	**50%**	**0%**	**114**
	2020/21	43%	8%	47%	2%	100
The electricity industry will meet consumers' evolving needs in the future	**2021/22**	**32%**	**23%**	**45%**	**0%**	**114**
	2020/21	35%	22%	41%	2%	100

Trust and confidence

Measure: Improved participant perceptions of trust and confidence in us and how we are fulfilling our role

Percentage of participants who agree with the following statement:

	Year	Disagree or strongly disagree	Neither agree nor disagree	Agree or strongly agree	N/A	Count (n=)
I have confidence in the role the EA plays as kaitiaki of the electricity sector	**2021/22**	**40%**	**32%**	**23%**	**5%**	**114**
	2020/21	35%	26%	37%	2%	100

Measure: Improved participant perceptions of reliability and operational efficiency

Percentage of participants who agree with the following statements:

	Year	Disagree or strongly disagree	Neither agree nor disagree	Agree or strongly agree	N/A	Count (n=)
The electricity sector operates efficiently	**2021/22**	**38%**	**18%**	**40%**	**4%**	**114**
	2020/21	35%	15%	48%	2%	100
The electricity system delivers a high level of reliability	**2021/22**	**8%**	**11%**	**78%**	**3%**	**114**
	2020/21	12%	10%	78%	0%	100

Measure: Participant perceptions of the quality of our monitoring

Percentage of participants who agree with the following statements:

	Year	Disagree or strongly disagree	Neither agree nor disagree	Agree or strongly agree	N/A	Count (n=)
The EA actively monitors market outcomes	**2021/22**	**17%**	**23%**	**54%**	**6%**	**114**
	2020/21	18%	21%	56%	5%	100
The EA actively monitors participant behaviour	**2021/22**	**16%**	**23%**	**56%**	**5%**	**114**
	2020/21	20%	27%	52%	1%	100
The EA holds participants to account for their actions	**2021/22**	**29%**	**20%**	**45%**	**6%**	**114**
	2020/21	39%	19%	41%	1%	100

Thriving competition

Measure: Improved participant perceptions of ability for new entrants to compete with established participants

Percentage of participants who agree with the following statements:

	Year	Disagree or strongly disagree	Neither agree nor disagree	Agree or strongly agree	N/A	Count (n=)
New entrant retailers can operate on a level playing field with established retailers	**2021/22**	**52%**	**12%**	**25%**	**11%**	**114**
	2020/21	56%	16%	19%	9%	100
New entrant generators can operate on a level playing field with established generators	**2021/22**	**42%**	**16%**	**29%**	**13%**	**114**
	2020/21	43%	21%	18%	18%	100

Innovation flourishing

Measure: Improved participant perceptions of the ability of the system to support rapid change

Percentage of participants who agree with the following statement:

	Year	Disagree or strongly disagree	Neither agree nor disagree	Agree or strongly agree	N/A	Count (n=)
The electricity regulatory environment supports incorporation of new business models and technology in a timely manner	**2021/22**	**42%**	**21%**	**28%**	**9%**	**114**
	2020/21	45%	30%	18%	7%	100

Measure: Improved participant perceptions of the current market settings' ability to encourage innovation

Percentage of participants who agree with the following statements:

	Year	Disagree or strongly disagree	Neither agree nor disagree	Agree or strongly agree	N/A	Count (n=)
The current market settings encourage innovation in generation	**2021/22**	**38%**	**22%**	**27%**	**13%**	**114**
	2020/21	34%	23%	29%	14%	100
The current market settings encourage innovation in distribution network management	**2021/22**	**44%**	**30%**	**16%**	**10%**	**114**
	2020/21	52%	25%	12%	11%	100
The current market settings encourage innovation in consumer-facing services	**2021/22**	**30%**	**27%**	**34%**	**9%**	**114**
	2020/21	30%	27%	35%	8%	100
The current market settings encourage innovation in transmission network management	**2021/22**	**27%**	**35%**	**13%**	**25%**	**114**
	2020/21	23%	44%	17%	16%	100

Appendix C

ADDITIONAL REPORTING

The following measures are identified in the *Statement of Performance Expectations 2022/23 (SPE)*, published in June 2022. They have been included in this report to act as a baseline.

Electricity industry governance and market operations

Monitor, inform and educate

Measure	2021/22 target	2021/22 result
The Authority regularly publishes robust monitoring reports.	Baseline to be established. Number of quarterly reviews and trading conduct reports published.	**Achieved.** We have published weekly trading conduct reports since the provisions were introduced, and we have published three quarterly reports, with the June quarter report due to be completed and published in July. We published the Phase 1 review into 9 August in September 2021, the wholesale market review in October 2021, and the Phase 2 review of 9 August in April 2022.
The Authority actively promotes understanding of its work and the electricity system to a wide audience.	Baseline to be established. Number of website views and social media followers.	Total website views: **671,431 views**. Total social media followers (Twitter/ LinkedIn): **2,776**
Content on EMI is reviewed and revised as needed to maintain relevance.	Baseline to be established. Number of content pieces reviewed and revised.	**Five pieces** of EMI content were reviewed and revised.
Data and analytical tools are made available to support the Authority's decision-making process.	Baseline to be established. Number of products made available.	**38 items** of data or analytical tools were made available to support the Authority's decision-making processes.

Enforce compliance

Measure	2021/22 target	2021/22 result
Our compliance decisions are lawful and appropriate.	Baseline to be established. Achieved.	**Achieved.** Decisions made follow delegated decision authority.

GLOSSARY AND ABBREVIATIONS

A detailed glossary is available at www.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. Improving the ability and willingness of participants to compete in these markets will improve reliability and efficiency.
ASX	Australian Securities Exchange.
AUFLS	Automatic under-frequency load shedding.
Authority	Electricity Authority.
CEA	Crown Entities Act 2004.
Code	Electricity Industry Participation Code 2010.
Constrained-on compensation	Constrained-on compensation is an amount paid to generators, if they are required by the system operator to generate during a trading period when the final price is less than the generator's offer price. The payment is calculated by the clearing manager and is payable by purchasers and the system operator.
Consumer	Any person who is supplied with electricity other than for resupply.
CRX / CR4	Concentration Ratio (CR) of the top X number of 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. For example, CR4 is the sum of the market shares for the top four parent retail companies.
DER	Distributed Energy Resources are a controllable energy resource located in the distribution network. Examples include small scale generation, batteries, electric vehicles.
Emergency event	An emergency event is one where there is a persistent shortage situation (weeks or months) and would include rolling outages or supply shortage declarations (both in Part 9 of the Code).
EMI	Electricity market information website. See: www.emi.ea.govt.nz
FTR	Financial transmission right.
Gentailer	An organisation that is both an electricity generator and an electricity retailer.
Hedge market	A market through which hedge contracts are bought and sold. A hedge contract is a financial risk management product or contract for sale and purchase of electricity that shifts the price risks associated with the spot price of electricity.

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.
HVDC	High Voltage Direct Current – the HVDC link is the high voltage transmission cable that transports electricity in both directions between the North and South Islands.
Instantaneous reserves	Generation capacity and interruptible load that is made available to be used in the event of a sudden failure of a generation or transmission facility to maintain system frequency at 50 Hertz. 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.
IPAG	Innovation and Participation Advisory Group.
Kaitiaki	A te reo Māori word, meaning trustee, guardian or steward. As the kaitiaki of electricity in New Zealand, 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.
Market making / Market makers	A service where market makers are required to offer cash-settled Contracts for Difference (CFD) contracts on the New Zealand electricity derivatives futures market. Market making services are currently provided by Contact, Genesis, Mercury, and Meridian.
MDAG	Market Development Advisory Group.
MOSPs / Service providers	Market Operation Service Providers. We contract third parties to manage the electricity system (system operator) and market services, as described in Part 3 of the Code.
Net pivotal	A net pivotal generator can profitably and unilaterally raise prices, i.e. a generator is net pivotal when its generation is greater than its own retail and hedge sales in the relevant area. When a supplier is net pivotal, it has incentives to raise prices because its hedge position, including retail, provides no financial constraint; or it lacks competitive pressure on prices (i.e. it has market power).
Non-network services	The use of controllable flexibility resources (e.g. batteries, hot water load, EV chargers, or other demand response) to manage congestion on a network, typically by third parties under contract with (or otherwise incentivised by) the network owner. The use of these resources is intended to de-risk, defer, or avoid completely the need for additional investment in traditional network infrastructure (e.g. poles, wires, and transformers).
NZX	The New Zealand stock exchange.
OTC	Over-the-counter hedges. These are hedges traded off an organised exchange.
Outcome, impact and output	Accountability terms used in the Public Sector that link the work we do with the results we are contributing to. ▪ **Outcome:** a state or condition of society, the economy or the environment and includes a change in that state or condition. For us this is expressed through the competition, reliability and efficiency limbs of our statutory objective. ▪ **Impact:** the contribution made to an outcome by a specified set of outputs, or actions, or both. We use our strategic priorities and specific changes we seek through our projects and business as usual functions to assess the impact we are making. ▪ **Output:** the goods or services that we supply. We refer to these as 'our functions' in this report.
Participant	A person, or a person belonging to a class of persons, identified in section 7 of the Act 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.

Powerswitch	Powerswitch is a free and independent service that helps residential consumers work out which power company and pricing plan is the cheapest for them. It is run by Consumer NZ and receives funding from the Electricity Authority. See www.powerswitch.org.nz/
Reliability event	A reliability event is one where something has gone bang. Some power system asset has broken (with some risk to system security) and there may be lessons to be learned from the experience.
Sandbox	A sandbox is a testing environment, similar to User Acceptance Testing (UAT) environments.
Scarcity event	A scarcity event is one where the power system didn't (or nearly didn't) have enough generation and/or transmission assets available to meet demand for some short period (hours).
SOI	*Statement of Intent*. Prepared in accordance with the CEA.
SPE	*Statement of Performance Expectations*. Prepared in accordance with the CEA.
Spot market	The buying and selling of wholesale electricity is done via a 'pool' for each half-hour for each grid point of connection, where electricity generators offer electricity to the market and retailers bid to buy electricity. This market is called the spot or physical wholesale market.
TPM	Transmission pricing methodology. See www.ea.govt.nz/operations/transmission/transmission-pricing/
Trading conduct rules	A set of rules under the Code. Trading conduct rules are designed to ensure appropriate behaviour in the wholesale electricity market.
Transpower	The State-owned enterprise that owns the high voltage transmission network (the national grid) and acts as system operator.
UTS	Undesirable trading situation. A UTS is a situation that threatens or may threaten confidence in, or the integrity of, the wholesale market or settlement that cannot otherwise be resolved satisfactorily under the Code.

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