2019/20

ANNUAL REPORT

For the period 1 July 2019 to 30 June 2020

ELECTRICITY AUTHORITY
TE MANA HIKO

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APPENDICES

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 2019 to 30 June 2020.

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.

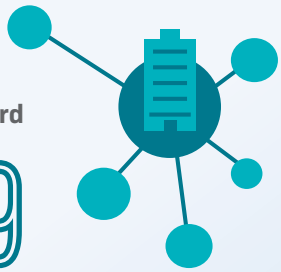
Glossary and abbreviations
There are many technical terms used in the electricity sector and some of these occur in this report. To assist readers, a glossary and list of abbreviations used in this report is provided at the end of the report. In addition, the Authority has a glossary of common electricity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

BY THE NUMBERS

A record

39

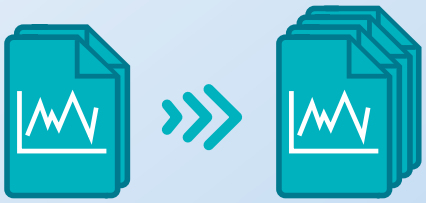
parent companies operated in the retail market



About

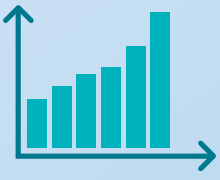
6,500

people visited the EMI website each month



Monthly trading of ASX contracts reached a peak of around **41,000** contracts, more than double an average month

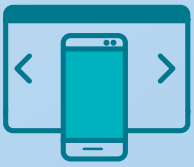
78%



of our market development projects met their targets

The annual number of visits to the consumer section of the website increased by

6%



OUR WORK ADDRESSES THE ISSUES THAT MATTER TO CONSUMERS

DO CONSUMERS HAVE CHOICE?

Competition can lead to large value gains for consumers in the long-term, by driving firms to continually look for new and better ways to serve customers and to adapt quickly to technological innovations.

Page 17 shows a summary of progress against the competition limb of our statutory objective.

Page 32 shows the contributions we've made under our 'Improve consumer participation' strategy.

WILL THE LIGHTS STAY ON?

Reliability is important because homes and businesses are highly dependent on having a continuous supply of electricity.

Page 20 shows a summary of progress against the reliability limb of our statutory objective.

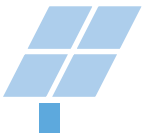
Page 36 shows the contributions we've made under our 'Increase flexibility and resilience' strategy.

ARE PRICES REASONABLE?

We want prices to reflect the costs of the services consumers use, so consumers get the benefits of the efficiency gains and their own choices can be more efficient.

Page 23 shows a summary of progress against the efficiency limb of our statutory objective.

Page 34 shows the contributions we've made under our 'Improve price signals' strategy.



IS INNOVATION HAPPENING?

New and evolving technologies are changing the way people engage with electricity markets — they increasingly have more choice and control than ever before.

Page 29 shows the contributions we've made under our 'Reduce barriers' strategy.

FROM THE BOARD CHAIR

We are pleased to present the Electricity Authority's tenth Annual Report.

Over the past ten years the Authority has introduced a range of reforms to improve the competitiveness, reliability and efficiency of the industry. We undertook incremental change to help the industry navigate through a rapidly evolving environment while holding industry to account on behalf of New Zealand electricity consumers.

The outcome has been no repeats of the dry-year conservation campaigns that were common in the previous 10 years. Retail price rises have been at a much slower rate and more in line with general inflation, and the choices available to consumers have expanded considerably. There has also been significant investment in renewable generation to increase the percentage of output from such sources from under 70% to around 85%.

While the Electricity Authority's statutory objective, powers and functions have remained the same since 2010, the environment in which we operate has changed. Developments in climate policy, the availability of new generation, metering and system control technologies, and the evolution of different business models have all shifted the way in which the energy system operates and is likely to develop.

Although much has happened in the last 10 years, there is significant opportunity for electricity to play a bigger role in helping New Zealand grow, meet its challenges and support economic recovery from the current shock of COVID-19.

Electrification is key to reducing the emissions from New Zealand's wider energy system and economy. The share of renewables in total primary energy supply reached 40% in 2018. If the policy objective of increasing this percentage is to be achieved, much more renewable generation at all scales will be needed to transition away from fossil fuels in process heat production and transport.

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

Our independence is valuable for promoting high-performing electricity markets – reducing the risk of interventions with unintended consequences and increasing predictability in how the regulatory regime operates. This is important for electricity, which is technically complex and relies on long-lived capital-intensive investments.

The past year has been an extraordinary one for the Authority. The global COVID-19 pandemic tested the Authority's preparedness to shift quickly to remote working. It similarly tested the business continuity planning of the whole industry. To date, the Authority and the industry have managed the challenges without any material issues arising. The Authority is very grateful to its staff and to the wider industry for the efforts they put in to achieve this outcome.

The industry is aware that in addition to providing a necessity for heating, lighting and cooking to the community, electricity is also vital to most other essential services. Without electricity, difficulties arise quickly with the provision of water and sanitation, urban traffic control, telecommunications, financial payments, personal security and many other essentials of modern life.

The industry plans for major disruptions as part of its normal operations. This planning has been tested in the recent past by a couple of major earthquakes, significant plant outages, weather events and recurring dry-years. To date this emphasis on planning for the unexpected has helped the industry very successfully manage COVID-19.

Despite the challenge of remote working due to the global pandemic, we made great progress on long-standing projects and Electricity Price Review (EPR) initiatives.

TRANSMISSION PRICING METHODOLOGY

A significant milestone was our decision on the transmission pricing methodology (TPM) and the publication of new guidelines. This reflects over 10 years of industry discussion and debate. Transmission pricing matters – transmission costs pay for the national grid and make up approximately 10 per cent of the average consumer's total power bill. The transmission grid is a central and crucial part of the electricity system now and will continue to be in the future.

TPM is one of our pricing reform projects that aim to achieve a more efficient electricity industry. If the price reflects the costs of providing the service, it sends the right signal to users and potential investors and fosters innovation and the uptake of technology, if and when it is economic to do so.

ELECTRICITY PRICE REVIEW

Several of the recommendations in the final EPR report and Government response to it reinforced initiatives already underway on the Authority's work programme. In the past year, we have worked at pace to deliver EPR initiatives and made several decisions, including improving the hedge market and the introduction of a default agreement for use between retailers and distributors.

UNDESIRABLE TRADING SITUATION CLAIM

We've seen volatility in the market in the past couple of years resulting in periods of sustained high prices. Participants have had to respond to extreme events and manage their risk and activities during periods of uncertainty. In December 2019, the Authority received a claim of an Undesirable Trading Situation (UTS) because offer prices remained high while significant hydro spill was occurring in the South Island. The Authority undertook extensive analysis and published a preliminary decision on this claim at the end of June 2020. It found that a UTS had existed for a period in late 2019. The Authority will consider submissions on the preliminary decision and work towards making a final decision as soon as possible.

STRATEGY RESET

The Authority recently worked in partnership with the electricity industry to reset its strategy. The last time the strategy got an extensive refresh was 2013.

The strategy reset enables us to better respond to our changing environment and the changing expectations of regulators. Regulators are expected to think more broadly about the wider environment and the interaction of their sector with others – considering long-term economic, social, cultural and environmental implications.

Our strategy reflects our widening regulatory environment and the need to consider and respond to broader outcomes. The strategy articulates the five strategic ambitions for the sector – consumer centricity; trust and confidence; low emissions energy; thriving competition and innovation flourishing. The five ambitions describe success and how the electricity industry can make a difference. All five ambitions were developed with our stakeholders.

CHANGES TO THE BOARD

This is the final Annual Report for Brent Layton who retires at the end of October 2020. Brent has been with the Authority since it was established on 1 November 2010. He has had extensive involvement with the industry dating back to the 1990s and the early phases of developing a market. We thank Brent for his contributions and wish him well for the future. Susan Paterson's term has been extended and she will remain on the Board after 1 November 2020.

BOARD

Brent Layton (Chair)

Susan Paterson ONZM

Allan Dawson

Sandra Gamble

Mark Sandelin

Lana Stockman

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 2020.

Signed on behalf of the Board:

Brent Layton
Chair
Electricity Authority
3 September 2020

Mark Sandelin
Audit and Finance Committee Chair
Electricity Authority
3 September 2020

CHIEF EXECUTIVE'S REPORT

This has been a remarkable and challenging year for all of us. Faced with a global pandemic, organisations and individuals have had to adapt to a changing world in which the terms alert levels and lockdown became part of daily life and conversations.

Like other agencies, the Authority balanced response with business as usual as we sought ways to regulate through extraordinary circumstances. The lessons were many and useful as we continue to evolve and improve on the foundations established over the past 10 years. Despite the changes to our working environment we made great progress and released several decisions which will deliver long-term benefits for consumers.

We reached significant milestones in two of the Authority's long-standing and often contentious projects. Our decision on the long-standing TPM reform was notable. We've worked hard to engage frequently and openly with interested parties on TPM and to respond to areas of concern knowing our response may not always be well received. Over the past year, we published consultation and information papers, held workshops and meetings and considered submissions. Our decision benefited from this extensive engagement and the divergent opinions, as well as our commitment to be more transparent. The result are new guidelines and a significant milestone in one of the Authority's priority projects. TPM will continue to be a priority as we work closely with Transpower to implement the new guidelines.

The default distributor agreement (DDA) decision also represents a significant milestone for the industry. The DDA should address long-standing contract negotiation issues between distributors and traders, problems which industry have been unable to resolve for years. We faced opposition to the DDA given the commercial impact on various parties, we worked hard to communicate our process and thinking and to ensure industry had a good understanding of the content and impact of the agreement.

Consumer interests drive our commitment to deliver decisions on these projects — we know the changes will benefit consumers over the long term. We had already sharpened our focus on consumers and responded to many of the recommendations from the electricity price review including the decision to ban retailer-initiated saves and win-backs. This decision increases retail competition resulting in more choice for electricity consumers.

The restrictions and impact of COVID-19 required us to respond to different challenges — for consumers and for industry. We worked closely with industry and government agencies to ensure a reliable and secure supply of electricity for all consumers. We made our expectations clear to industry and requested they prioritise customer and staff safety during this extraordinary time. We increased our monitoring and used our regulatory powers to request industry information about debt and disconnections so we could actively monitor the impact and intervene if need be. This consumer-first approach was supplemented by a sector-specific response to the impact on electricity retailers. The Authority's retail debt deferral scheme acknowledges the increasing pressures on some retailers and offers some respite to those who qualify.

The electricity industry has been grappling with rapid change and challenges for years including the impacts of climate change. Over the past few years we've seen increased volatility in the wholesale electricity market as the system contends with increased physical disruption such as extreme weather events and outages. While we expect volatility, we also recognise we can take more action to support market participants to prepare for uncertainty. We've introduced a suite of measures over the past 12 months to support participants including an additional stress test and asking market makers to increase services and provide more data on their trading activities. We also put in place a backstop measure to bolster the resilience of the current arrangements while we work alongside industry towards more enduring market making arrangements. We are also responding to requests for more transparency and clarity of information and of standards for trading conduct. These issues are critical to support a market in which participants and the wider public can have trust and confidence.

Demonstrable enforcement activity, and high levels of compliance by industry underpins confidence in the markets we operate. Our monitoring and compliance functions have been busy with compliance investigations and two significant decisions by the Rulings Panel in 2019/20. We know people are interested in our monitoring activities and we've made a commitment to publish more insights into what we're seeing. For example, increased commentary on high wholesale market prices and a detailed quarterly review of the market.

As an organisation, we're committed to taking a different approach to the way we work — within ourselves and with industry. Through various projects we have demonstrated a more open and collaborative approach with our stakeholders. While we were engaging with interested parties to deliver against legacy projects we were also looking towards the future and revisited our strategy informed by the views of industry and stakeholders. In doing so, we take forward the strong foundations of the market and harness those strengths to prepare for an exciting but uncertain future.

The strategy reset represents a way point for the Authority and the next 12 months will see us reorganise how we approach the work at hand, to ensure we can make progress towards the agreed sector ambitions — low-emissions energy; consumer centricity; trust and confidence; innovation flourishing and thriving competition. All five ambitions reflect our changing environment and reinforce the need for a forward-looking regulatory regime which provides stability and agility to give confidence and respond.

Right now, a stable regulatory regime is critical. We will continue to work with industry and across Government to give confidence to industry and the wider public that we are closely watching the sector and taking action on behalf of consumers.

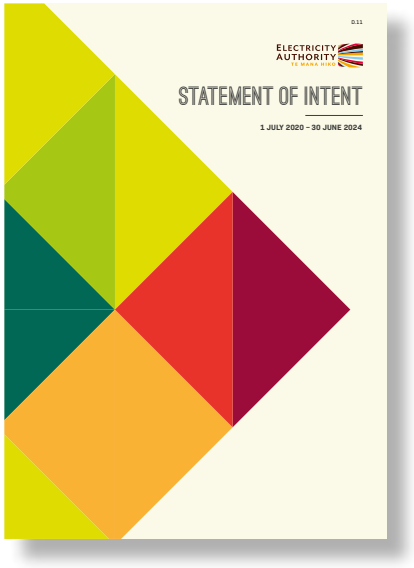
James Stevenson-Wallace
Chief Executive

STRATEGIC FRAMEWORK

The *2017–21 Statement of Intent (SOI)* sets out our strategic framework, along with impact measures and targets reflecting our long-term strategic intentions for the next four years. At its strategy session in October 2017, the Authority's Board agreed to slightly amend this framework to:

- remove 'Maintain Compliance' as a separate strategy, noting this remains a key function for the organisation
- highlight the strategic importance of lifting our organisational capability by including our Organisational Capability Strategies.

Rather than amend the 2017–21 SOI, the Authority decided to use the *2018/19 Statement of Performance Expectations (SPE)* to introduce the amended strategic framework, effective from July 2018. However, as the removed 'Maintain Compliance' strategy is still part of the 2017–21 SOI, it remains 'in effect' until the 2017–21 SOI is replaced — this means, Appendix C of this Annual Report includes performance information for the removed 'Maintain Compliance' strategy, consistent with our obligations under the Crown Entities Act 2004 (CEA).



NEW STRATEGIC DIRECTION FOR 2020–2024

This annual report is the last to report against our previous strategy set out in the 2017-21 SOI.

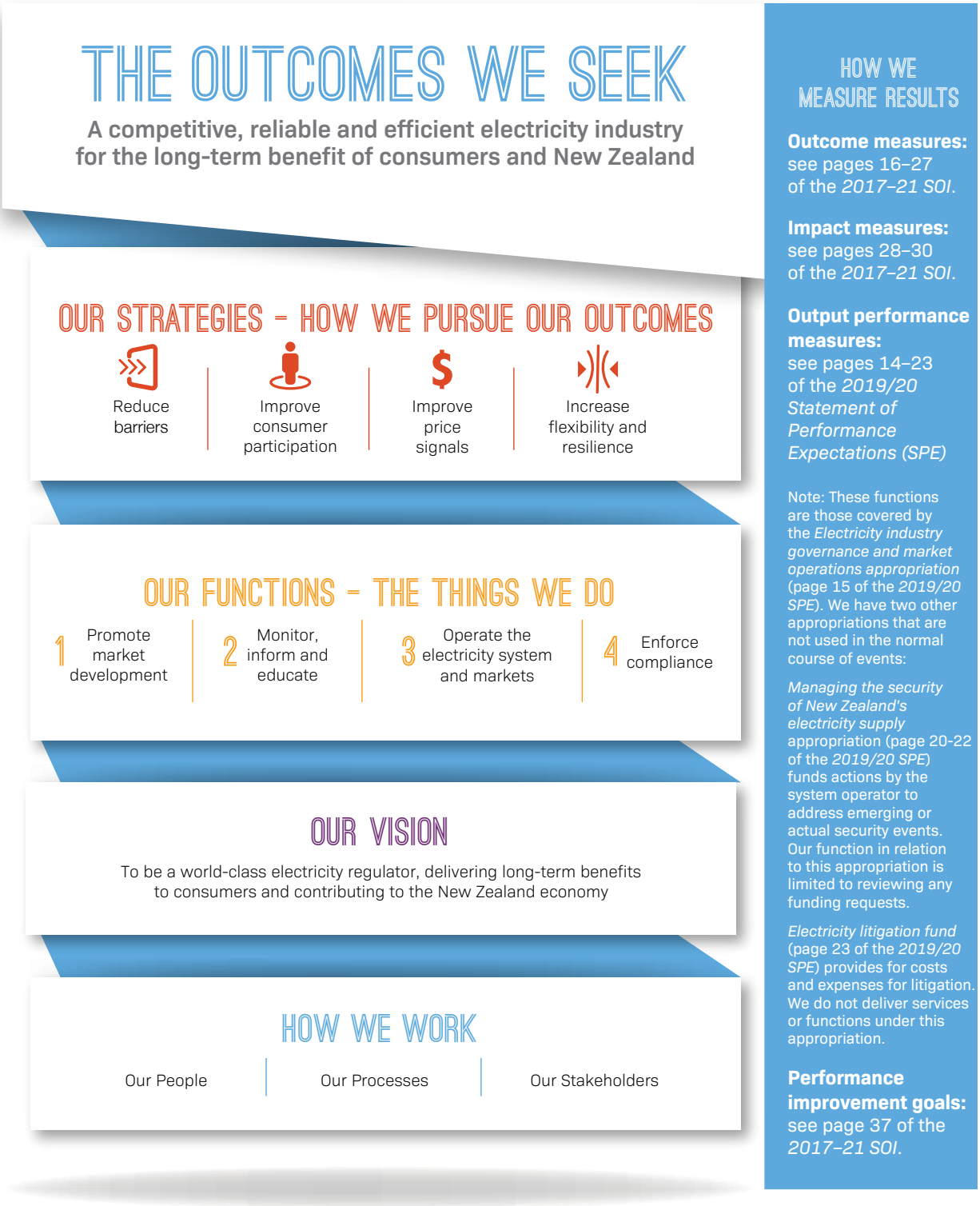
We have been successful in promoting strong competitive markets. Our new strategy reflects that we're thinking more broadly to ensure our regulation responds to a changing world.

Five key sector ambitions now focus us, supported by five key strategic capabilities in which we will invest for success.

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

You can learn more about the Authority's new strategy and the priority actions we will take in our 2020–2024 Statement of Intent. www.ea.govt.nz/statement-of-intent

FIGURE 1: OUR STRATEGIC FRAMEWORK



HOW WE MEASURE RESULTS

Outcome measures: see pages 16–27 of the *2017–21 SOI*.

Impact measures: see pages 28–30 of the *2017–21 SOI*.

Output performance measures: see pages 14–23 of the *2019/20 Statement of Performance Expectations (SPE)*

Note: These functions are those covered by the *Electricity industry governance and market operations appropriation* (page 15 of the *2019/20 SPE*). We have two other appropriations that are not used in the normal course of events:

Managing the security of New Zealand's electricity supply appropriation (page 20-22 of the *2019/20 SPE*) funds actions by the system operator to address emerging or actual security events. Our function in relation to this appropriation is limited to reviewing any funding requests.

Electricity litigation fund (page 23 of the *2019/20 SPE*) provides for costs and expenses for litigation. We do not deliver services or functions under this appropriation.

Performance improvement goals: see page 37 of the *2017–21 SOI*.

COVID-19 AND THE AUTHORITY

COVID-19 | Increase flexibility and resilience | 3 Operate the electricity system and markets

The COVID-19 pandemic is an extraordinary event and like other sectors, the electricity industry has had to adapt and respond.

Our priority during COVID-19 is ensuring the market continues to deliver for consumers. A secure and reliable supply of electricity is essential.

More than ever, the sector needs to work closely together to address critical areas and continue to protect consumers, as well as those that work in the industry.

In April we increased our focus on monitoring, ensuring we understood exactly what was occurring in the market, so we could respond if needed. We kept in close contact with Government and industry to monitor the impact of COVID-19 and worked closely with Transpower, in their role as System Operator, to ensure the secure and reliable electricity supply during the Alert Level 4 lockdown.

We also established an industry working group to discuss critical issues and seek industry-led solutions. Many stakeholders welcomed the initiative and were keen to take part. The group discussed our collective response to the increased pressure customers were under to pay their bills during the Alert Level 4 lockdown.

The Authority acted quickly on many of the issues raised by the working group.

At the same time we launched a campaign to motivate consumers to speak to their electricity retailers about their circumstances, find guidance on savings and learn where to go for more support. The online 'Talk/Check' campaign, which launched in April, had good reach through social media channels and websites including the COVID-19 Government website and EECA.

We also wrote to retailers, metering equipment providers and invoicing distributors reminding of their duty of care towards all consumers during COVID-19 and to express support for the actions already taken.

We worked closely with industry to better understand the scale of the financial pressure on the industry, particularly retailers, as a result of consumers struggling to pay their bills. We used our powers under section 46(2)(a) of the Electricity Industry Act 2010 to request debt and disconnection information from retailers. Retailers provided us with weekly updates which was used to assess the financial stability of a number of electricity retailers. Analysis of the data showed that most retailers had an increase in customer enquiries regarding COVID-19, payment flexibility or payment deferral. We published regular updates about the data on our website.

We took quick and decisive action to reduce the potential for multiple trader defaults, as a result of consumers struggling to pay bills. We made an urgent Code amendment to put in place a solution for electricity retailers facing liquidity problems who are otherwise sound but may exit the market due to the consequences of the COVID-19 pandemic.

The Authority also supported ASX's move to provide additional flexibility to market makers to help address the disruptions they faced as they transitioned to the lockdown. Without additional flexibility it is possible market makers could have faced the unreasonable choice of placing their people at risk, or breaching requirements.

While prioritising urgent responses to COVID-related issues, we remained committed to delivering key aspects of our market development work programme, including major work streams which will contribute to ongoing certainty for the sector. We reprioritised our work programme and paused some initiatives to focus our resources on the critical work and reduce the requirement on the industry to continue to engage on development activities.

Impacts of COVID-19 will continue to affect our lives. The Authority are continuing to respond and play an important role in New Zealand's economic recovery.

DELIVERING FOR THE LONG-TERM BENEFIT OF CONSUMERS

Improve consumer participation | Reduce barriers | 2 Monitor, inform and educate

We want to make sure consumers have access to a reliable and secure electricity supply at the right price. We work hard to make sure the regulatory settings provide long-term benefits for consumers.

The Authority has multiple initiatives underway that focus on improving consumer outcomes and address many of the Electricity Price Review (EPR) recommendations. These include improving access to information and data, enabling new technologies and business models across the electricity sector and enhancing competition.

STREAMLINED PROCESS FOR CUSTOMER REQUESTS FOR CONSUMPTION DATA

Consumers increasingly want to take control of their data and use this information to take advantage of the growing range of electricity services on offer.

We have implemented a key part of the EPR's recommendation about providing consumers and their agents better access to consumption data held by retailers.

We are looking to further implement a series of initiatives that make it easier for consumers to share their historical consumption data with organisations they trust. In return, customers will benefit from products and services tailored to better meet their needs and wants.

This is part of our wider programme of work to reduce barriers that could prevent consumers from accessing many different services from many different suppliers.

STANDARD DEFAULT TERMS FOR NETWORK ACCESS

We want to enable greater participation in the electricity industry and make it easier for retailers (new and expanding) to access the network and develop new and innovative technologies.

In June 2020 we decided to implement a series of default terms which make it easier for distributors and traders to enter into contracts for distribution services, data exchange and dividend payments. These default terms include:

- the Default Distributor Agreement template which provides retailers access to local distribution networks on more reasonable terms
- the Data template which allows distributors to access consumption data on reasonable terms
- two default agreements for a distributor's shareholder trust to pay dividends to beneficiaries on the network (Income Payments).

We consider the default terms will streamline negotiations for network access and data exchanges between distributors and traders and deliver long-term benefits for consumers.

PROHIBIT SAVES AND WIN-BACKS

It is important that all retailers have an equal opportunity to compete for customers. To support this goal, we decided to ban saves and win-backs for 180 days after a customer switches retailers.

Banning win-backs is good for consumers. It is an incentive for retailers to offer better prices and products to their customers upfront, rather than waiting until they decide to leave before offering them a better deal. The ban is a way to remove a barrier to competition in the electricity industry. Retailers — large and small, old and new — now have an equal opportunity to compete for customers.

MERGE WHAT'S MY NUMBER AND POWERSWITCH

Since 2011, the Authority's What's My Number campaign and Consumer NZ's Powerswitch website have helped New Zealanders check for potential savings, compare plans and switch their power deals.

The EPR review recommended merging the two websites to create a more advanced single comparison website. In December 2019, these websites were merged, making it easier for consumers to compare plans and make a decision about switching retailers.

IMPROVE AWARENESS OF POWERSWITCH AND UTILITIES DISPUTES

Raising awareness of Utilities Disputes and Powerswitch will ensure consumers are well informed and empowered to make good choices. By early 2021 all retailers and distributors will have to provide customers with clear and prominent information about Utilities Disputes. Retailers will also have to provide customers with clear and prominent information about Powerswitch.

The Authority continues to make progress on the delivery of many other EPR initiatives. We have offered to support the establishment of a forum for developing an industry view on a suitable incentive based market making scheme and making improvements to the wholesale market generally. We have begun engaging with industry on developing updated guidelines for vulnerable and medically dependent consumers and working with MBIE on energy hardship overall.

PART 1

REPORT ON OUTCOMES

The outcomes we achieved for the long-term benefit of consumers and New Zealand.

The competition, reliability and efficiency limbs of our statutory objective are used as our high-level outcomes for measurement purposes. We measure progress through empirical analysis of competition, reliability and efficiency metrics. We also measure progress with public and stakeholder perception surveys.

The measurement of these high-level results is complex, with multiple influencing factors. The cause and effect relationship between our work and measurable change in electricity markets is not straightforward and may take several years to become clear. Factors outside the control of the Authority have a major influence, leading to significant year-to-year variations in results.

Our outcome and impact measure results need to be analysed over the medium-to long-term. Our analysis of results may therefore cover multiple years, not just 2019/20.

This is a summary of progress to date against the competition, reliability and efficiency limbs of our statutory objective. See Appendix A for more detailed trend information.

This part of the Annual Report sets out our statutory objective in the Electricity Industry Act 2010, and the outcome measures we monitor.

Outcome measures are set out in our *2017–21 SOI*.

COMPETITION

We focus on workable competition for buying and selling electricity.

Competition can lead to large value gains for consumers in the long-term by driving firms to continually look for new, more efficient and effective ways to serve customers and to adapt quickly to technological innovations. Competition also assures consumers they are paying reasonable prices. New retailers entering the market and existing retailers creating new and innovative offerings are signs of healthy competition, which benefits consumers. Innovative retailers seek to better understand their customers and invest in new technologies and new partnerships to provide more value to their customers.

We encourage competition in all electricity related markets including the retail electricity market, the spot market, hedge markets, the metering market and all ancillary service markets (instantaneous reserves, frequency keeping, voltage support and black start). Where possible, we also encourage competition in transmission and distribution services.

We facilitate or encourage increased competition in the markets for electricity and electricity-related services. We take into account long-term opportunities and incentives for efficient entry, expansion, exit, investment and innovation in those markets.

HIGH-LEVEL RESULTS SOUGHT	HOW WE TRACK RESULTS	TARGET	RESULT
Widespread confidence among consumers in the competitiveness of electricity markets	**Perception surveys:** Percentage of survey respondents with an opinion on the matter who rate the electricity industry as neutral or better against the statements:	Overall improvement in survey results since Authority intervention began in 2011.	Perceptions of competition worsened in 2019 after a sustained period of improvement — see **Figure 2**.
	"The current level of competition among electricity generators ensures they build the most efficient power stations and generate electricity as cheaply as possible."		2011 result: 45% 2014 result: 51% 2017 result: 54% 2019 result: 48%
	"The current level of competition between electricity retailers ensures that prices consumers pay only rise in line with costs to the electricity companies."		2011 result: 44% 2014 result: 45% 2017 result: 50% 2019 result: 50%
Overall improvement across a suite of statistics on electricity market competition	Measures covering residential, spot, hedge and ancillary service markets. Statistics will also address entry and exit data, dynamic efficiency and information about investment and innovation.	Overall improvement in suite of competition statistics.	**Achieved.** There was a continued improvement in the suite of competition statistics during 2019/20.*

Notes

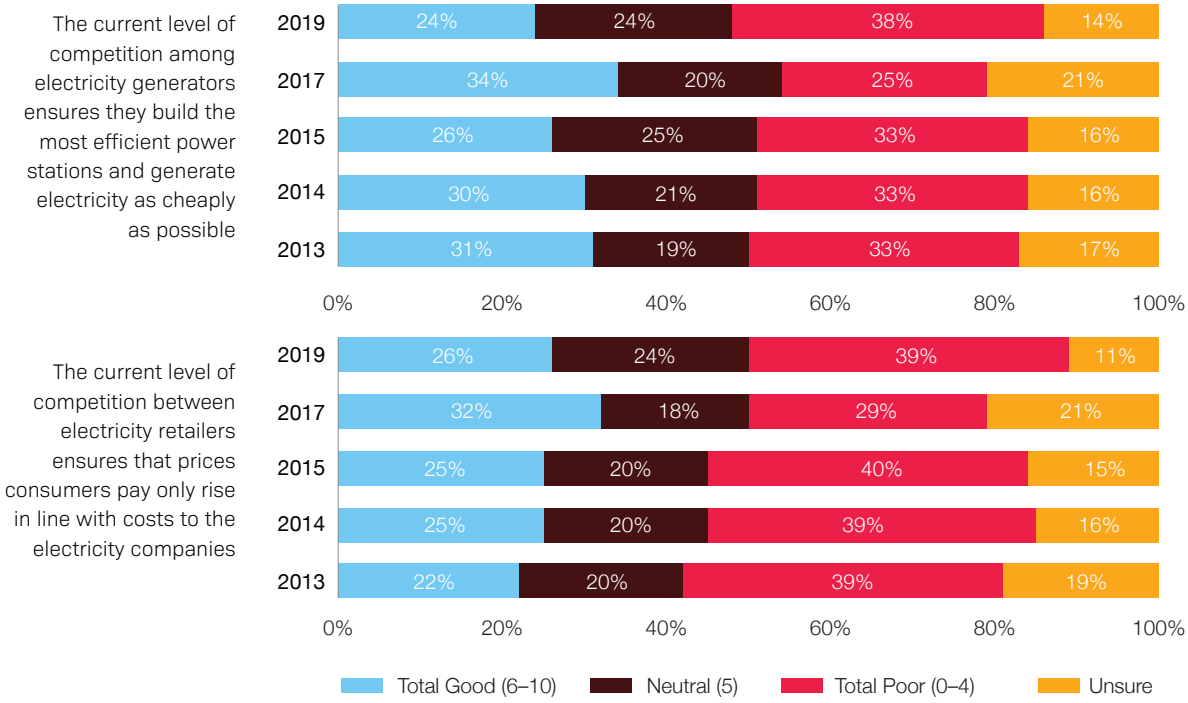
*** The following suite of statistics and summary results to date are:[1]**

1. Retail market concentration (HHI statistic)	**Improving trend.**
2. Retail market share (CR4 statistic)	**Improving trend.**
3. Net pivotal analysis	**The most net pivotal generator is still only net pivotal less than one percent of the time.**
4. Hedge market concentration (HHI statistic)	**Herfindahl-Hirschman Index (HHIs) were low overall for both monthly and quarterly contracts.**
5. Concentration in the ancillary services market (HHI of reserves statistic)	**The HHI for New Zealand has remained low and stable since the introduction of the national market for reserves.**
6. Number of retailers' approaches to consumers with offers to induce switching (measured by survey)	**Approaches increased up until 2014 and have fallen to 2018 (not measured in 2019).**

1 See **Appendix A** for a list of the statistics and a detailed report against each. See the glossary for explanations of these statistics.

Figure 2 shows the results for competition-related questions in our public perception surveys. It shows perceptions of competition have worsened for the retail market after a sustained period of improvement. The surveys are carried out every two years. The latest survey was completed in March 2019.

FIGURE 2: PERCEPTION SURVEY RESULTS FOR COMPETITION QUESTIONS – SURVEY OF RESIDENTIAL CONSUMERS



Source: UMR research report for the Electricity Authority: CRE aspirations: UMR omnibus results March 2019.

RELIABILITY

We seek efficient levels of supply reliability for consumers.

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

We facilitate and encourage industry participants to develop and operate the electricity system efficiently to manage security and reliability in ways that minimise total costs while being robust to adverse events, such as a severe drought, major storms, an earthquake or a cyberattack. Being resilient to adverse events includes having a good business continuity plan to ensure Electricity Industry Participation Code 2010 (Code) obligations are still met.

Reliability is important because homes and businesses are highly dependent on having a continuous supply of electricity to operate computers, phones, lights, heating, cooling and other appliances and equipment. The home of the future will use electricity very differently. As consumers increasingly embrace new and evolving technologies, they need and expect personal levels of reliability.

HIGH-LEVEL RESULTS SOUGHT	HOW WE TRACK RESULTS	TARGET	RESULT
Widespread acceptance among consumers of efficient levels of supply reliability	**Perception surveys:** Percentage of survey respondents with an opinion on the matter who rate the electricity industry as neutral or better against the statements:	Overall improvement in survey results since Authority intervention began in 2011.	Perceptions of reliability worsened slightly in 2019 after a sustained period of improvement — see **Figure 3**.
	"There is enough electricity to meet ongoing needs, that is, a good balance is achieved between the cost of having some power stations sitting idle most of the time against the cost and risk of power shortages when there is a long drought that limits hydro-generation."		2011 result: 51% 2014 result: 62% 2017 result: 61% 2019 result: 62%
	"There is a reliable supply of electricity each day, that is, a good balance is achieved between the cost of power cuts versus the cost of maintaining electricity supply."		2011 result: 60% 2014 result: 74% 2017 result: 75% 2019 result: 71%
Overall improvement across a suite of statistics on efficient levels of reliable electricity supply	Measures of security and reliability, covering short-term service interruptions on the distribution network, transmission system reliability, resilience to emergency events (including dry years) and assessment of efficient investment in reliability.	Overall improvement in suite of statistics on the efficiency of security and reliability levels.	**Achieved.** There was a continued improvement in the suite of reliability statistics during 2019/20.*

Notes

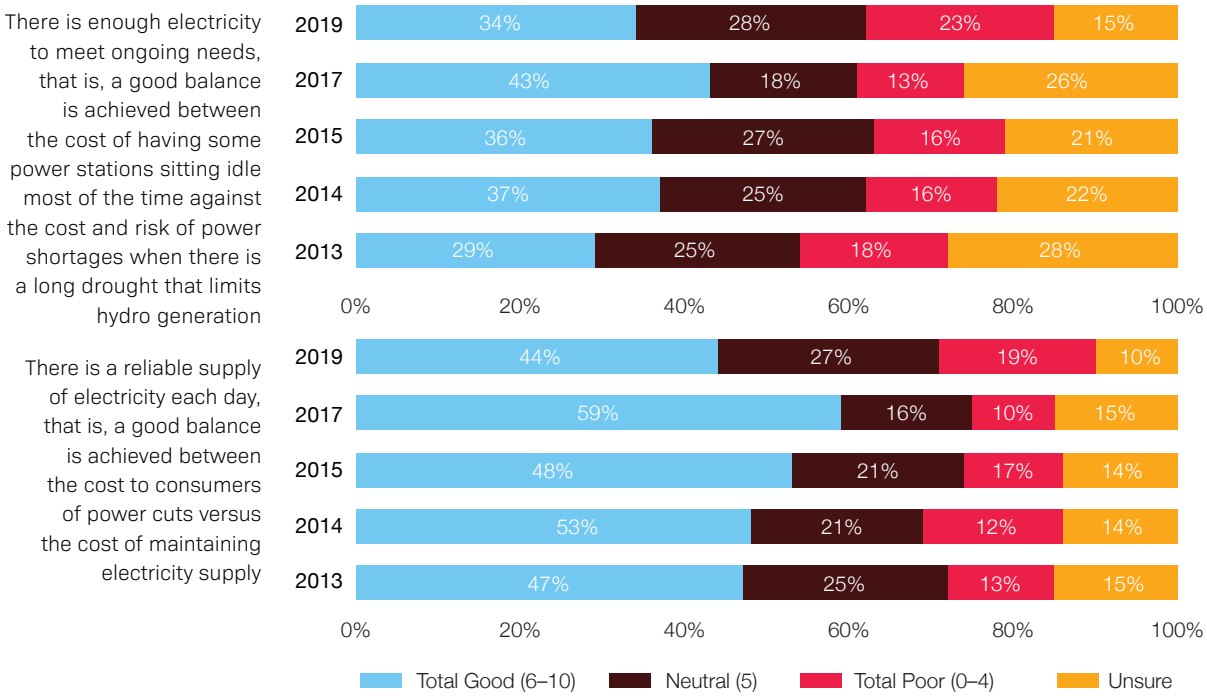
*** The following suite of statistics and summary results to date are:[2]**

7. Pricing in scarcity events reflects opportunity cost, as measured by case-by-case analysis	**The high prices in early 2020 and May 2020 were investigated as part of Quarterly Reviews and a market commentary publication. This initial analysis found prices reflected market fundamentals. Further in-depth investigation will be conducted in 2020/21.**
8. Effective management of dry years or emergency events, as measured by case-by-case analysis	**The beginning of 2020 with low storage in the North Island and constrained export north, plus the high prices in May 2020 have been discussed in Quarterly Reviews and a market commentary publication. Further in-depth analysis will be conducted in 2020/21.**
9. Capacity and energy margins are within efficient bounds or are moving towards those bounds, as measured by the annual security assessment	**Capacity and energy margins are moving towards the bounds set by the Board.**
10. Investigation of reliability events does not identify systemic issues, as measured by case-by-case analysis	**The Rulings Panel issued penalty decisions on formal complaints in relation to the 2 March 2017 South Island restoration event and the 25 January 2018 outage in Hamilton. The Authority published a Quarterly Review discussing events which occurred in November 2019 and the learnings for reliability. The review did not identify any systemic issues.**

2 See **Appendix A** for a list of the statistics and detailed report against each. See the glossary for explanations of these statistics.

Figure 3 shows the results for reliability related questions in our public perception surveys. Perceptions of reliability worsened slightly in 2019 after a sustained period of improvement. These surveys are carried out every two years. The latest survey was completed in March 2019.

FIGURE 3: PERCEPTION SURVEY RESULTS FOR RELIABILITY QUESTIONS – SURVEY OF RESIDENTIAL CONSUMERS



Source: UMR research report for the Electricity Authority: CRE aspirations: UMR omnibus results, March 2019.

EFFICIENCY

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

We are seeking wholesale and retail electricity markets and transmission and distribution arrangements, that are efficient mechanisms for coordinating electricity production and consumption and for facilitating timely and innovative investment in the electricity system.

Efficiency measures apply, in particular, to parts of the market without workable competition (as a good level of efficiency is expected to follow in the other parts of the market where there is workable competition). We take into account the transaction costs of market arrangements, the administration and compliance costs of regulation and the Commerce Act 1986 implications for the non-competitive parts of the electricity industry.

We want consumers to see transparent pricing for the various types of service they receive. We also want those prices to reflect the actual costs of those services, so that consumers get the benefits of the efficiency gains and can make more efficient choices.

From an operational point of view, efficiency is important because it means that existing resources and investments are used and better outcomes are more likely to be achieved.

HIGH-LEVEL RESULTS SOUGHT	HOW WE TRACK RESULTS	TARGET	RESULT
Widespread recognition by consumers that electricity markets and transmission and distribution arrangements are efficient	**Perception surveys:** Percentage of survey respondents with an opinion on the matter who rate the electricity industry as neutral or better against the statements:	Overall improvement in survey results since Authority intervention began in 2011.	Perceptions of efficiency worsened in 2019 after a sustained period of improvement — **see Figure 4.**
	"The New Zealand electricity market ensures the right mix of power stations is built in time to meet growing demand for power."		2011 result: 43% 2014 result: 54% 2017 result: 56% 2019 result: 52%
	"The New Zealand electricity market ensures electricity is generated and supplied efficiently."		2011 result: 66% 2014 result: 72% 2017 result: 77% 2019 result: 66%
Overall improvement across a suite of statistics on electricity system and market efficiency	Measures relate to monitoring whether prices relate to costs at all times. Measures will include the costs and benefits of operating the electricity system and markets.	Overall improvement in suite of statistics on operational efficiency.	**At risk.** While there was continued improvement for most of the suite of statistics during 2019/20, the UTS investigation suggested prices did not reflect underlying market fundamentals during that period.*

Notes

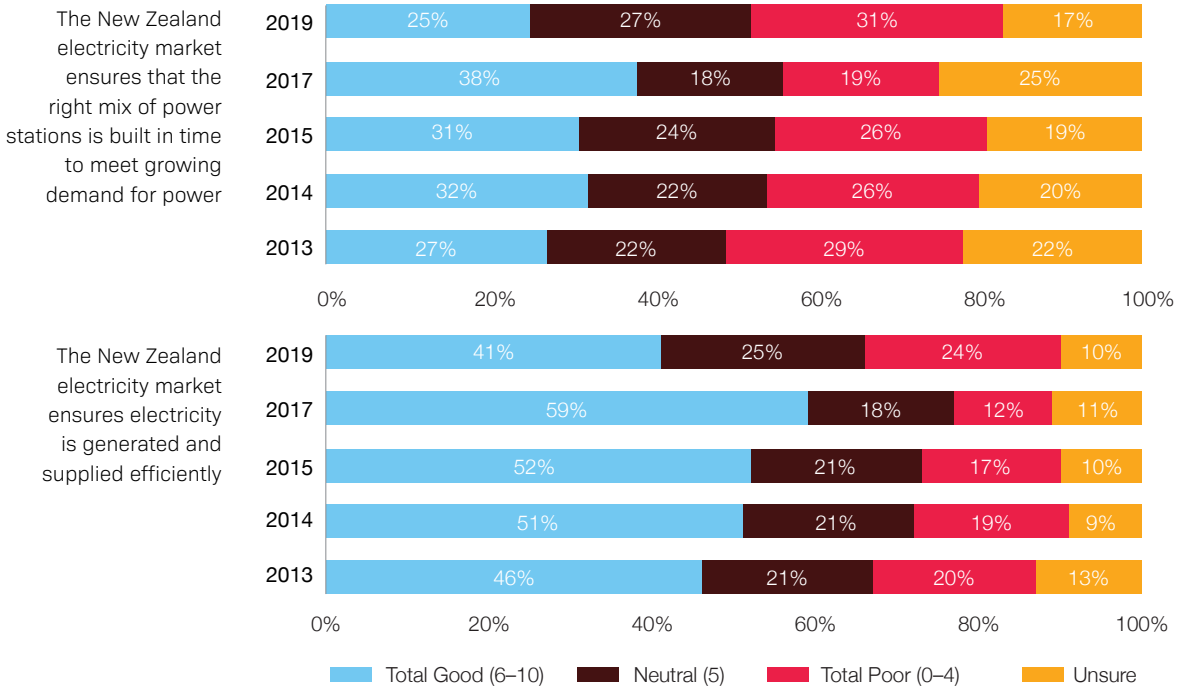
*** The following suite of statistics and summary results to date are:[3]**

11. Robust futures prices	**Our 2019/20 work programme delivered projects aimed at improving liquidity and more projects are scheduled in the 2020/21 work programme.**
12. Dry year prices reflect storage levels, as assessed by case-by-case analysis	**Low North Island storage and a scheduled HVDC outage in early 2020 led to price separation as expected. Low North Island storage and generation outages led to high prices during May 2020. These two periods have been discussed in Quarterly Reviews and a market commentary report. Initial analysis suggests spot prices during these periods reflected the scarcity of supply.**
13. Exceptional prices are justified by underlying fundamentals, as assessed by case-by-case analysis	**An investigation into the claim of a UTS suggests that spot prices may not have reflected underlying fundamentals during December 2019. A preliminary decision has been released and is out for consultation.**
14. Reducing constrained-on compensation	**Constrained-on costs have been falling since 2011.**
15. Increased occurrence of demand bids setting spot prices	**Not yet measured.**

3 See **Appendix A** for a list of the statistics and detailed report against each. See the glossary for explanations of these statistics.

Figure 4 shows the results for efficiency-related questions in our public perception surveys. It shows perceptions worsened in 2019 for both questions after a sustained period of improvement. The surveys are carried out every two years. The latest one was completed in March 2019.

FIGURE 4: PERCEPTION SURVEY RESULTS FOR EFFICIENCY QUESTIONS – SURVEY OF RESIDENTIAL CONSUMERS



Source: UMR research report for the Electricity Authority: CRE aspirations: UMR omnibus results, March 2019.

TPM REFORM — OVER 10 YEARS IN THE MAKING

Improve price signals | Reduce barriers | Promote market development

On 10 June 2020, the Authority published new guidelines for transmission pricing. This marked a significant milestone in the long and contentious review of transmission pricing methodology (TPM).

The TPM review has been a long and contentious process and the decision reflects years of review, analysis and valuable input from interested parties.

The transmission pricing review project was started in 2009, two years after the current TPM was established in 2007. The then Electricity Commission had identified major problems in the existing TPM and major benefits in making changes to it, particularly efficiency benefits.

The Electricity Commission became the Electricity Authority in late 2010 and began consulting on changes to the TPM in January 2012.

The reform has been a decade of discussion, consultation, debate and challenge. There is no single option that will please everyone and the Authority has worked hard over the past year to engage frequently and openly with interested parties and work towards a decision that demonstrated we had heard the concerns even if we didn't always agree.

Over the past year, we published consultation and information papers, held workshops and meetings and considered submissions. Our decision benefited from this extensive engagement and the divergent opinions, expert commentary and analysis provided over the past 12 months.

Transmission pricing matters — transmission costs pay for the national grid and make up approximately 10 per cent of the average consumer's total power bill. The transmission grid is a central and crucial part of the electricity system that provides households and businesses with safe and reliable access to electricity all day, every day.

The transmission grid is owned and operated by Transpower. The maximum revenue Transpower can recover is set by the Commerce Commission. The Authority sets the guidelines for how Transpower can set its charges to recover the approximately $800m annual cost of building and running the national transmission grid from electricity generators, distributors and direct consumers. This cost is expected to rise to over $1 billion in the next ten years.

At the heart of the new TPM guidelines is a benefit-based approach to transmission pricing. Those who benefit from transmission investments will pay for them. The current approach spreads the cost of all transmission assets across the country regardless of benefit. Under the new guidelines consumers who benefit from a transmission investment will pay for it. Benefits include better energy prices and a more reliable supply of electricity. This is a significant change from the current TPM which allocates the costs of regional transmission investments across all consumers, regardless of where they live or the benefits they get.

The result is TPM guidelines which will better serve New Zealand consumers, particularly as we transition to a low-carbon economy. Investment in new generation will be crucial to support the projected increased electrification of transport and industrial processes. The new TPM will help unlock investment potential, give greater investor certainty and support the right investments, in the right place at the right time.

WHAT HAPPENS NEXT?

Transpower is developing a new Transmission Pricing Methodology based on the revised guidelines and relevant sections of the Electricity Industry Participation Code 2010. A revised Transmission Pricing Methodology is expected to be in place by April 2023. The Authority is working closely with Transpower to support this process.

HEDGE MARKET ENHANCEMENTS — MARKET MAKING ARRANGEMENTS

Improve price signals | Reduce barriers | Promote market development

The Hedge Market Enhancement (HME) project was a high priority project in the Authority's 2019/20 work programme and contributed to promoting competition in and efficiency of the electricity industry for the long-term benefits of consumers.

The HME project related to the Authority's strategy to improve price signals so that decision-makers and consumers face efficient prices. The project focused on ensuring fit for purpose market making services are provided on an enduring basis to better support competition and efficient outcomes.

The project will contribute to a more reliable and efficient electricity industry through improved forward price information, which will improve investment and operational decision-making.

The Authority's approach to finding an enduring market making solution was a commitment to meaningful engagement including regular discussions with the sector and consumers, to find an approach directly informed by them. This engagement developed the Authority's initial thinking, presented initial issues and opportunities and possible approaches for an enduring solution and the criteria for assessing them.

Throughout 2019/20 the Authority also took proactive steps to actively manage the market in the short-term to increase confidence and resilience in the market. These steps included:

- In November 2019 the Authority introduced an additional stress test scenario to help market participants prepare for potential spot price volatility from disruption to the market during Summer 2020 through planned outages and maintenance.
- In December 2019 the Authority wrote to market makers asking for increased services and more data on their trading activities. Market makers agreed and starting trading with increased volume and tighter spreads from 13 January 2020 to help ensure the market remained available during known stress events.
- The new information from market makers will provide a richer understanding of the market. The Authority has released new market making performance reports on its EMI website for all participants to observe.
- In January 2020 the Authority put in place a backstop measure in the Code to bolster the resilience of the existing market making arrangements and ensure the continuation of market making services.
- In March 2020 the Authority supported the ASX to temporarily grant market makers additional flexibility during the COVID-19 lockdown. This helped to ensure market maker staff could stay safe and comply with self-isolation requirements, while still providing essential services to the market.

Alongside these changes, the ASX saw record amounts of trading and the Authority saw improvements in the resilience of the market soon after.

The Authority undertook two rounds of formal consultation in 2019/20, three rounds of face-to-face engagements and received dozens of submissions, including ones from representative groups.

The Authority decided on enduring market making arrangements for the long-term benefit of consumers in August. The Authority is now in the process of designing and implementing the solution and will support the market through the transition.

PART 2

REPORT ON

STRATEGIES AND IMPACTS

We work across the four broad strategies shown in Figure 1 (page 11) to achieve our strategic intentions.

The strategies are summarised on the following pages, along with a report against the impact measures we use to track progress.

The impact measures for each of our strategies are a mix of quantitative analyses and qualitative assessments. These impact measures were set out in our 2017–2021 SOI. These are medium-term strategies and therefore progress is tracked over multiple years.

More information about some of the projects mentioned in this section is available in **Part 3** of this report.

We also publish a detailed report outlining our progress against all the projects in our work programme.[4]

This part of the Annual Report sets out the Authority's contributions to the changes we are trying to bring about.

Impact measures were included in our *2017–21 SOI*.

4 Available at: www.ea.govt.nz/about-us/strategic-planning-and-reporting/our-work-programme/

STRATEGY 1

REDUCE BARRIERS

We want to facilitate the entry, expansion and exit of parties in electricity markets to improve competition and as a result, efficiency.

New retailers entering the market and existing retailers creating new and innovative offerings are signs of healthy competition.

Our work aims to allow for more participation and identify and reduce inefficient barriers to developing and using evolving technologies and business models across the electricity supply chain.

IMPACT MEASURES	STATUS	RESULT
a. Improved information availability, for example, on the Electricity Authority's website and EMI.	○ ○ ●	**On track.** Information availability is improving, as indicated by increases in visitors to and data volumes downloaded from, the Authority and Electricity Market Information (EMI) websites.*
b. More and varied participants providing new services to consumers, for example, new retailers entering the market, and new products being offered.	○ ○ ●	**On track.** New retailers are entering the market and providing new services to consumers, as indicated by the change in the number of retail parent companies.**
c. Improved risk management, for example, increased hedge market participation.* **	○ ○ ●	**On track.** Key measures of hedge market participation improved in 2019/20. For example, traded volumes and open interest for exchange traded instruments (ETI) reached record highs during the reporting period. Success of the measures was supported by robust market making services provided to the ASX over that period by the four largest generator-retailers in the New Zealand market.
d. Improved participation in a range of electricity markets, for example, demand-side participation in a range of markets.** **	○ ○ ●	**On track.** Participation in 2019/20 has remained steady, as indicated by competition for ancillary services. The Authority's Innovation and Participation Advisory Group continues to provide advice on ways to increase participation (including in demand response) and we expect that the implementation of our transmission pricing and real time pricing projects will better allow for demand response opportunities to be monetised.

Notes:

* During 2019/20, the EMI website received an average of 6,500 unique visitors per month, up from 5,000 per month in 2018/19. Over 200,000 data files were downloaded in the past year from EMI datasets. The number of EMI subscribers continues its steady growth and by the end of the 2019/20 year was up to 767, an additional 197 subscribers from last year.

** During 2019/20, the net number of retail parent companies in New Zealand grew slightly from 37 to 39. While the number of parent retail companies dropped from 22 to 20 in the South Island, they rose from 31 to 32 in the North Island. Source: www.emi.ea.govt.nz/r/hh32t

*** Wholesale electricity is bought and sold via the spot market for each half hour for each grid point of connection. The spot market can sometimes expose buyers (and sellers) to very high (or very low) prices. ETIs such as futures contracts can help manage the risk of high and low prices on the spot market. Demand for these ETIs is indicated by trade volumes and open interest — both of which have been steadily improving since July 2010. Trading volumes in 2019/20 have been elevated and open interest has grown significantly. Sources: trade volumes www.emi.ea.govt.nz/r/3mm3o, open interest www.emi.ea.govt.nz/r/kxee5

**** To maintain a reliable and secure electricity supply, the system operator contracts individual participants to provide ancillary services, including frequency keeping reserve and instantaneous reserve. Improved participation will lead to a more efficient ancillary services market. Participation, as indicated by the Herfindahl-Hirschman Index (HHI — a measure used to determine market competitiveness) has been steadily improving since July 2010 and remained steady during 2019/20.

Having access to information is important because it helps consumers, industry participants and stakeholders generally to innovate and make better decisions. Our work to **improve information availability** included:

- continuing our active programme of participant education to make information more accessible for new entrants and participants in the electricity sector, and providing specific guidance to the sector, eg, updating guidelines on providing services to Medically Dependent and Vulnerable Consumers, publishing a practice note in relation to the ban on saves and win-backs
- enhancing the EMI website with more content for both new and frequent users, as well increased functionality for users choosing to register and sign in. For example, over 100 dashboards were created by registered users during the past year and many of these were shared with other users. The work we've recently completed on containerising vectorised Scheduling, Pricing and Dispatch (vSPD) that runs in our Azure environment, means that we're now well set up to publish more conduct and performance metrics related to the wholesale market
- enhancing the disclosure of wholesale market information, particularly in relation to thermal fuels. This included supporting the work of the Gas Industry Company, MBIE and industry participants, and commencing a review on the information disclosure provisions in the Electricity Industry Participation Code.

Having **more and varied participants providing new services to consumers** is important because it creates healthy competition and better meets consumers' needs.

Our work in 2019/20 included:

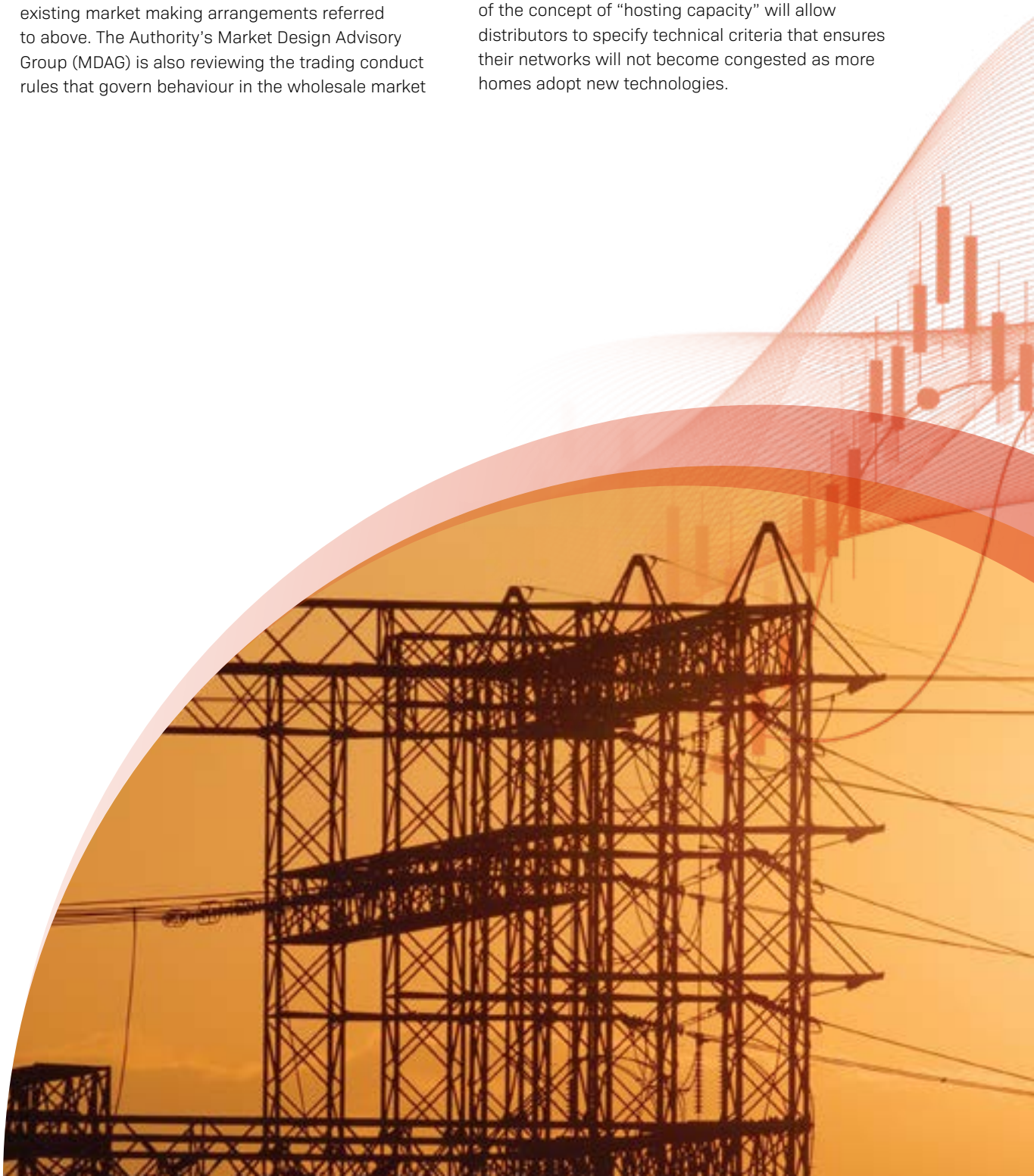
- completing our 'quick wins' project that made it easier for consumers to share their electricity consumption data with businesses and organisations they trust (to better allow those organisations to develop new, targeted services)
- banning saves and win-backs when a customer has decided to switch retailer, better ensuring that all retailers have an equal opportunity to compete for customers
- implementing a targeted debt deferral scheme during the COVID-19 lockdown to manage the risk of multiple retailer defaults (where retailers were otherwise sound, and not able to access further capital from shareholders).

We want to make it easier for participants to **manage potential risks** because it means their customers and stakeholders are more likely to be protected from the impact of potential risks.

The Authority's work to review existing market making arrangements will result in an enduring market making solution that is fit for purpose over time. In the short-term we have acted to bolster the existing arrangements and increase services to ensure participants can confidently manage risk with ASX products and access a reliable forward price curve. This work is discussed in more detail under Strategy 3 — Improving Price Signals.

Our work to **improve participation in a range of electricity markets** included:

- implementation of new wind generation offer arrangements that allow wind generators to offer energy like most other forms of generation (refer to Strategy 4 on increasing flexibility and resilience)
- a range of activities aimed at maintaining and increasing confidence in the market and the price formation process to ensure participation remains high. Examples include the Wholesale Market Information Disclosure work and the review of existing market making arrangements referred to above. The Authority's Market Design Advisory Group (MDAG) is also reviewing the trading conduct rules that govern behaviour in the wholesale market
- IPAG's work included:
  - » providing advice to the Authority on the 'input services' (eg, metering, network connection) required to allow customers to have multiple service providers at a single location
  - » reviewing Transpower's initial experiences with a demand response programme (ongoing)
- working to remove a barrier to the connection of electricity generation on networks so more customers can benefit by the connection of in-home electricity generation and storage. The introduction of the concept of "hosting capacity" will allow distributors to specify technical criteria that ensures their networks will not become congested as more homes adopt new technologies.



STRATEGY 2

IMPROVE CONSUMER PARTICIPATION

Consumer participation is important because competitive markets are enhanced when consumers effectively engage and actively participate in the process of buying and selling goods and services.

Consumers who actively participate in markets put pressure on suppliers to compete more vigorously and to innovate. We want to make it easier for consumers to choose the electricity supplier and tariff that is right for them. We also aim to enable consumers to use new technologies when it is efficient to do so.

IMPACT MEASURES	STATUS	RESULT
a. Increased consumer awareness and understanding.		**Not achieved.** The number of consumers switching energy companies has remained fairly level. COVID-19 lockdown had a negative effect on switching rates.*
b. Improved consumer participation in markets beyond simply consuming electricity.		**On track.** Consumer participation in markets beyond simply consuming electricity is improving, as indicated by increasing demand for installed distributed generation and the increasing amount of electricity injected into the network from small-scale distributed generation.**

Notes:

* Switching volumes are indicated by counting the number of electricity connections (ICPs) that have changed electricity suppliers over time. Switching volumes, which had been steadily increasing since July 2008, have been relatively steady for the last two years, although a significant drop occurred over the COVID-19 lockdown period, followed by a rebound. Source: www.emi.ea.govt.nz/r/2ocq1

Consumer awareness and understanding is also surveyed every two years, most recently in September 2018 by UMR Research.

** Demand for installed distributed generation, as indicated by the number of solar connections (ICPs) in the residential market segment, has been steadily improving since September 2013 and continued to improve during 2019/20. Source: www.emi.ea.govt.nz/r/dhjvz

Over the past 10 years, injection from distributed generation has grown to represent more than 12 per cent of total injection, from about seven percent in 2009.

The installed capacity of distributed generation continues its steady growth at about 50 megawatts per year and now totals more than 1,560 megawatts (www.emi.ea.govt.nz/r/023yp).

Of this distributed generation, small-scale installations, defined as each being less than 10 kilowatts, have grown to more than 109 megawatts (www.emi.ea.govt.nz/r/qzw1a).

If consumers are aware and motivated, they are more likely to investigate their options and shop around. Our work to **increase consumer awareness** and understanding included continuing the *What's My Number* campaign to provide information to consumers about:

- the ability to switch power companies
- the ease of switching
- the potential savings that can be made on their power bills.

The WMN campaign concluded in December 2019 when its website functionality was merged onto Consumer NZ's www.Powerswitch.org.nz.

We want to encourage consumer participation (such as shopping around or switching) because it means retailers have to compete with each other by providing different services and reconsidering their prices. Our work to **increase consumer participation in markets beyond simply consuming electricity** included:

- consulting on requirements for retailers and distributors to improve consumer awareness of Powerswitch and Utilities Disputes
- continuing to implement settlement of wholesale spot market prices in real time (RTP)
- completing our 'quick wins' project that made it easier for consumers to share their electricity consumption data (mentioned above)
- initiating our Open Networks project to enhance the ability for distributed energy resource (DER) owners to connect technology to help solve problems and provide value across the energy system. We consulted on a Code amendment to integrate hosting capacity into the connection application process and ran a forum discussing connection process and standards. We have also been active in discussing DER standards with other regulators recognising that standards impact areas such as safety, manufacturing and device capability (noting that all these discussions paused during the COVID-19 lockdown).

SWITCH PROCESS REVIEW

With the smart meter (AMI) rollouts nearly completed, new retail business models have emerged and become established. The trader switching processes were optimised for the pre smart meter business models and are now causing issues. These switching processes are being reviewed and refined to ensure they are fit for purpose.

We are also taking the opportunity to review and refine the distributor and metering equipment provider switching processes to ensure they are also fit for purpose in the new smart meter environment.

The second consultation — an issues and options paper — was released in October. The next stage — a Code amendment paper — will propose some quick wins and explore the options for the more complex issues. This paper was delayed due to the COVID-19 lockdown. We expect this paper will be released in quarter four of 2020.

STRATEGY 3

IMPROVE PRICE SIGNALS

We want to improve price signals to help inform the investment and consumption decisions of industry participants and consumers.

We also work to establish markets (where efficient and practicable) and disseminate price data and information.

IMPACT MEASURES	STATUS	RESULT
a. Increased range of products or services that provide price signals, for example, exchange-traded products.*	○ ○ ●	**On track.** The ASX is reviewing its product offering. The Authority has prioritised its review of market making arrangements over increasing the range of exchange traded products. Open interest has increased across exchange traded products. Retailers continue to innovate and are providing an increasing range of pricing options to their customers, including wholesale market (spot) based products, reduced fixed component, periods of free power, and seasonal pricing options.
b. Reduced instances of inefficient prices, including during scarcity events.	○ ● ○	**At risk.** The Authority investigated a claim of an Undesirable Trading Situation (UTS) during November and December 2019. If the claim is upheld following the preliminary decision, then prices did not reflect underlying market fundamentals during this period. Depending upon the Authority's final decision, the Authority will consider appropriate corrective actions and any potential changes to market rules. As mentioned above the Authority is already undertaking other work consistent with strengthening the wholesale market (information disclosure; market making review), as is MDAG (trading conduct).
c. Increased accuracy of price forecasts.**	○ ○ ●	**On track.** The Real-time pricing (RTP) project is in the detailed implementation phase and remains on track to go live in September 2022. RTP will provide more certain and actionable spot prices. The system operator is undertaking a number of initiatives to improve the accuracy and usefulness of price forecasts, including further refinements to its load forecasting tool and the introduction of a spot price sensitivity schedule proof of concept.
d. More cost reflective price signals for residential and small and medium enterprise (SME) consumers.	○ ○ ●	**On track.** New Transmission Pricing Methodology (TPM) guidelines were published on 10 June 2020. The new approach will: reduce the cost of electricity at peak times when consumers value it most (rather than over signalling at 'peak' times, even when there is no congestion); encourage the right investment in renewable generation and transmission to respond to the electrification of transport and industrial processes and contribute to a low-emissions economy at the least cost to consumers. In November 2019 the Authority published a summary assessment of distributors' pricing, to promote efficient investment in networks, solar generation, batteries and electric vehicles and provided a scorecard on its pricing method to each distributor. The Authority is seeking to better align network pricing with economic costs (including the impacts of network usage on costs) and anticipates distributors will take the Authority's assessment into account when setting future pricing plans.

Notes:

* The ASX New Zealand electricity futures market has a quarterly hedge product with prices listed for every quarter for 3.5–4 years in the future, which are traded and settled daily. The Authority encourages the development of new products to meet consumer risk management needs, such as new hedge products on the futures market.

** The wholesale electricity market produces forecast electricity prices ahead of and during each half hour trading period. Prices are typically finalised two days after the trading period. The Authority seeks to ensure that the design and operation of the wholesale electricity market encourages accurate forecast prices.

*** The Electricity Authority Work Programme and associated reporting is available from our website: http://www.ea.govt.nz/about-us/strategic-planning-and-reporting/our-work-programme/.

We want to reduce inefficient prices as much as possible because inefficient prices don't accurately reflect market conditions, making it harder for consumers and participants to make efficient decisions. To **reduce instances of inefficient prices, including during scarcity events,** we review any significant events that occur. During November and December 2019, prices remained high while South Island hydro generators were spilling water. This period was the subject of an Undesirable Trading Situation (UTS) claim. The Authority has released a preliminary decision.

Prices were also high at the beginning of 2020 during a scheduled HVDC outage and during May 2020. Both periods have been discussed in Quarterly Review publications and market commentary publications. This initial analysis suggests prices reflected underlying market conditions during these periods. Supply was scarce in the North Island due to low inflows and constrained export north during the HVDC outage and higher than usual generation outages in May. Further in-depth analysis will be conducted in 2020/21.

Residential and small and medium enterprise (SME) consumers benefit from efficient price signals because they can make better decisions about how and when they consume electricity. Our work to create **more cost reflective price signals for residential and SME consumers** included the transmission and distribution pricing projects, where the focus is on ensuring these prices are efficient, service based and cost reflective.

Other relevant work includes:

- Our RTP project where the prices used for settlement will be driven directly by live conditions on the power system, rather than calculated separately the next day as they are now. Under RTP, the spot prices visible in real-time will be 'actionable': consumers and participants can trust and act on those prices with far greater confidence than today.
- Our review of the market making arrangements. Robust market making services are vital to producing a reliable forward price curve. A robust forward price curve is important to all participants in the New Zealand electricity market as it allows them to plan for the future and make efficient investment and operational decisions for the long-term benefit of consumers.

STRATEGY 4

INCREASE FLEXIBILITY AND RESILIENCE

We want to enable the electricity sector to respond efficiently to change.

Change may be brought about, for example, by changing market circumstances, unexpected events, or new technologies and business practices.

We want to ensure security of supply arrangements provide the information and incentives that participants need to make efficient decisions.

IMPACT MEASURES	STATUS	RESULT
a. The customer transfer process works effectively in the event of retailer default.	○ ○ ●	**On track.** A review of the trader default process was conducted after the trader default in November 2018.
b. Improving the cost and effectiveness of the frequency management regime.*	○ ● ○	**At risk.** The cost and effectiveness of the frequency management regime has remained steady, although there was an increase in Q1 2020 as a result of the three month HVDC outage.
c. Market services are resilient to adverse events, as measured on a case-by-case analysis.	○ ○ ●	**On track.** Market services are resilient to adverse events. In 2019/20 this was indicated by the absence of adverse events requiring review and the continued provision of services during the business continuity plan activation during the COVID-19 Alert Level restrictions.**
d. Increased diversity of suppliers, supporting efficient power system resilience.	○ ○ ●	**On track.** Supplier diversity has been increasing over the long-term, as indicated by participation in the generation market.***

Notes:

* Frequency management services are ancillary services contracted by the system operator. Frequency keeping requirements have been reduced by frequency keeping controls and multiple frequency keeping in 2016. The gains made in these years have now levelled out.

** An adverse event includes any unexpected event with the potential to adversely affect service delivery. In 2019/20 there were no adverse events requiring review and the response to the COVID-19 alert restrictions were actively monitored, and services were fully maintained throughout this period. A joint disaster recovery (DR) system exercise was conducted in November 2019, where all Market Operation Service Providers (MOSP) tested their DR systems at the same time.

*** Generator participation has been steadily improving since July 2004. This is indicated by the long-term downward trend in generator HHI.

We want **the customer transfer process to work effectively** to ensure consumers have an uninterrupted electricity supply during the transfer process. A review of the trader default process was conducted after the trader default in November 2018. Minor Code amendments were consulted on in September 2019 and approved in June 2020. These amendments will be implemented in Q3 2020. There were also process improvements made as part of the review.

We want **market services that are resilient to adverse events** to ensure the efficient and reliable operation of the electricity system and markets. Our work to ensure resilient market services included:

- completing the remedial actions from the previous MOSPs cyber security audits
- completing a combined business continuity plan walkthrough with all the MOSPs, focussing on the interfaces between the MOSPs, and how the plans will work if more than one MOSP has activated their plan at the same time
- MOSPs performing as expected with no loss of service during the COVID-19 restrictions and activation of the business continuity plans.

Increased diversity of suppliers will support efficient power system resilience. Our work to increase supplier diversity has included:

- Better enabling participation of new generating technology in the wholesale market:
  - » amending the Code to allow wind generators to offer their output in multiple price bands on the same basis as thermal and hydro generators
  - » updating the Code to allow solar farms to offer their output and be dispatched as intermittent generators
  - » updating the Code to classify battery energy storage systems as generating units in the wholesale market
  - » receiving advice from MDAG on how to approach further work in this area, which included identifying battery energy storage systems offering reserves and performance standards for inverters as priority work that should be progressed in the short-term.
- The reset of the extended reserve project, which will lead to a more flexible and discriminating emergency load shedding scheme to protect against significant loss of supply.

PART 3

STATEMENT OF PERFORMANCE

Alongside implementing our work programme, the exercise of our functions also makes a valuable contribution to our strategic priorities.

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 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 2019/20 performance measures, including desired results and targets
- the status and result for each performance measure as at 30 June 2020.

This part of the Annual Report sets out the Authority's performance for its functions.

Forecast service performance was set out in our *2019/20 SPE*.

OUR STATUTORY OBJECTIVE
Outcome measures

OUR STRATEGIES
Impact measures

OUR FUNCTIONS
Performance measures

OUR VISION

HOW WE WORK
Processes and inputs

PERFORMANCE MEASURES USED IN THE 2019/20 ESTIMATES OF APPROPRIATIONS

Some of the performance measures we use in the SPE are also used in the 2019/20 Estimates of Appropriations. These measures are identified in **bold** within the notes to the performance measures for each function.

SERVICE PERFORMANCE DISCLOSURE STATEMENT

COVID-19 and the resulting lockdown period had no material impact on the Authority's service performance for 2019/20. Business as usual services were able to continue largely unaffected, except for some individual projects being paused, while COVID-19 related work was carried out. The lockdown period has not adversely affected the Authority's ability to report against performance indicators, as work was able to continue remotely, apart from one impact measure which is based on consumer switching (see page 32 of this report). There may be material impact on one performance measure in the 2020/21 reporting year, due to the nature of the 12 month rolling period of that measure. See the specific performance measure in the Enforce Compliance function for more information.

ELECTRICITY INDUSTRY GOVERNANCE AND MARKET OPERATIONS

WHAT IS INTENDED TO BE ACHIEVED

This appropriation is intended to achieve effective 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

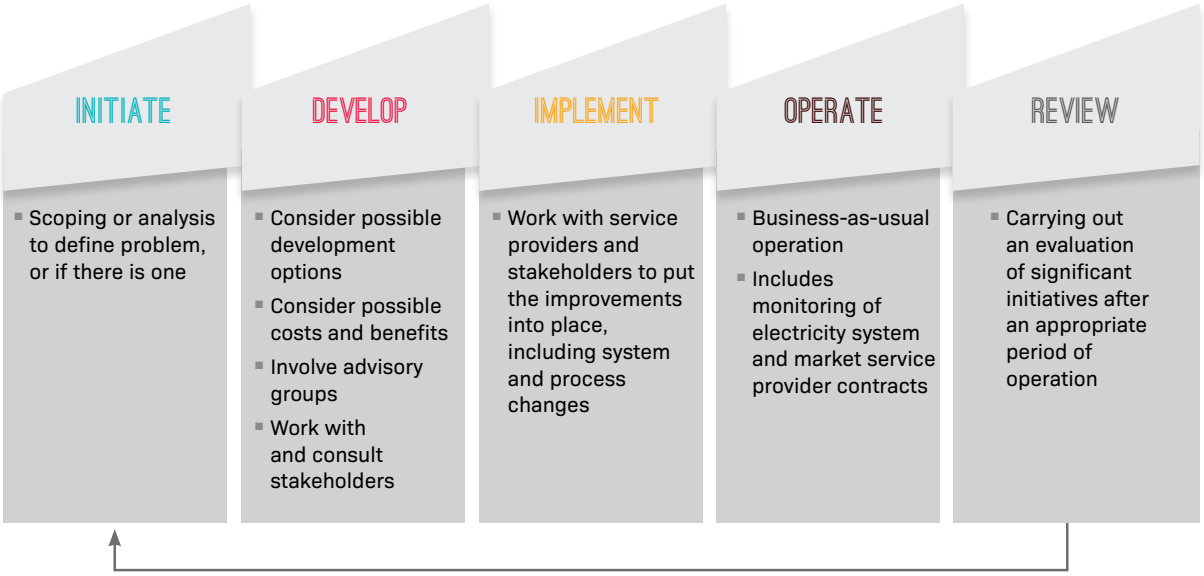
This appropriation is limited to formulating, monitoring and enforcing compliance with the regulations and Code governing the electricity industry and other outputs in accordance with the statutory functions under the Electricity Industry Act 2010 (Act); and delivery of core electricity system and market 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.[5]
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.

FIGURE 5: OUR MARKET DEVELOPMENT CYCLE



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

1. 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, shown in **Figure 5**, ensures that 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 42).

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.

PERFORMANCE MEASURES

MEASURE	TARGET	STATUS	RESULT FOR 2019/20
Market development projects achieve planned deliverables for the year.	80% of market development projects with published targets meet all of their milestones.*		**Not achieved.** Seven (78%) of our nine market development projects met their milestones for 2019/20. Further details are available in the 2019/20 work programme report.
Our market development decisions** are lawful and appropriate.	Zero (0) legal challenges that result in an Authority market development decision being overturned.***		**Achieved.** There were zero successful challenges in 2019/20.
Transparent, rigorous post-implementation reviews are conducted to establish whether Code amendments deliver intended benefits and impacts on market behaviour.	Post-implementation reviews show that market behaviour altered in intended direction identified when the Code or market facilitation measure was approved. In 2019/20 we plan to complete one to two post-implementation reviews.		**Achieved.** A post-implementation review was completed for the Financial Transmission Rights (FTRs) market changes, with a positive finding.

Notes:

* Our market development projects and milestones are identified in the Electricity Authority Work Programme, which is published on our website: http://www.ea.govt.nz/about-us/strategic-planning-and-reporting/our-work-programme/

** 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 they accept a Regulations Review Committee recommendation for it to be 'disallowed' — meaning the decision will no longer have force.

2. 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	STATUS	RESULT FOR 2019/20
Robust investigation, analysis and reporting on events.	Minimum of two reports completed per annum.	○ ○ ●	**Achieved.** Spilling while prices remained high led to an Undesirable Trading Situation claim and a preliminary decision was published in June 2020. Prior to this a report on high prices over 2019/20 was initiated, but put on hold as the UTS preliminary decision was worked on. Three Quarterly Reviews were published throughout the year and a review of distributors — aimed at understanding how distributors are responding to technological change — was published in October 2019.
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.** The Authority received no requests under section 18 in 2019/20.
Making information available to enable public understanding of the electricity system in New Zealand.	Publish 10 or more consumer focussed items on the New Zealand electricity system.**	○ ○ ●	**Achieved.** 13 consumer friendly items on market performance were published in 2019/20.
	Maintain the number of annual visits (45,000) to the consumer section of the Authority website.	○ ○ ●	**Achieved.** The number of annual visits increased during 2019/20 from 144,626 to 153,653.
Making, data, insights and analytical tools available to industry participants.	Maintain the number of annual visits (35,000) to the EMI website.	○ ○ ●	**Achieved.** The number of annual visits increased during 2019/20 from 29,590 to 36,283.

Notes:

* Assessment was by external expert reviewers using a five 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. New pages: 'Will I still get my local energy trust rebate if I switch electricity retailer?', 'Why is my electricity bill higher in winter?', 'How could spot prices affect my bill?'. Updated pages: 'What are my rights as an electricity consumer?', 'How do I switch electricity companies?', 'Is a spot price contract right for me?'.

3. 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.[6]

There have been extensive changes to the MOSP services, systems and contract arrangements over recent years. Because of this, the main focus under this function for 2019/20 continued to be on ensuring services were delivered to the high standard expected by the Authority and the users of the services.

In 2019/20 we:

- investigated and made a decision on a claim of an Undesirable Trading Situation
- published the decision paper and final amendments to the Code and the Approved Systems Document to enable the system operator to implement its Dispatch Service Enhancement (DSE) project.

The system operator's DSE project will significantly improve current dispatch services, reduce risk and enable future innovation. The system operator commenced delivery of this project in 2017/18. The costs associated with the project have required appropriation increases for the Authority of $0.333 million in 2018/19 and $0.999 million in 2019/20 and out years. Transition of participants to the new dispatch platform commenced in August 2019 and remains on target to be completed by December 2020.

PERFORMANCE MEASURES

MEASURE	TARGET	STATUS	RESULT FOR 2019/20
Electricity system and market operation performance will be assessed by monitoring service provider performance to ensure that contract requirements, including performance standards, are met.	Contract and performance standards met.*	○ ○ ●	**Achieved.** During 2019/20 all relevant contract, Code and performance standards were met.
	Audits of market operation service providers do not reveal any significant issues.**	○ ○ ●	**Achieved.** During 2019/20 no significant issues were revealed by the annual audits of service providers.
	Monitoring reports of market operation service providers do not reveal any significant issues.**	○ ○ ●	**Achieved.** During 2019/20 no significant issues were revealed by the monitoring reports of service providers.
	An increasing percentage of users rate the overall services provided as good or very good.	○ ○ ●	**Achieved.** The percentage of users rate the overall services provided as good or very good increased from 85.1% to 90.7%.
The Authority carries out its Code obligations in accordance with the Electricity Industry Participation Code.	No significant breaches as a result of the Authority carrying out its Code obligations***	○ ○ ●	**Achieved.** During 2019/20 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 material 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.

6 A list of service providers is available on page 39 of our 2017–2021 Statement of Intent.

4. ENFORCE COMPLIANCE

We are responsible for monitoring, investigating and enforcing compliance with the Act, regulations made under the Act and the Code.

PERFORMANCE MEASURES

MEASURE	TARGET	STATUS	RESULT FOR 2019/20
Percentage of investigations* decided within 12 months of the investigation being opened.**	100%		**Not achieved.** During 2019/20, 99.1% of investigations were decided within 12 months of the investigation being opened. ***
Percentage of investigations* decided within four months of the investigation being opened.	85%		**Achieved.** During 2019/20, 87.8% of investigations were decided within four 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.** During 2019/20, all reports to the Compliance Committee complied with the Authority's quality standards and case management procedures.

Note:

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

** The impact of COVID-19 and the resulting Level 4 lockdown may have a material impact on the ability to achieve this measure in 2020/21 due to the nature of the 12-month rolling reporting period for this measure.

*** One out of the 107 cases was not decided within the 12 months.

ELECTRICITY INDUSTRY GOVERNANCE AND MARKET OPERATIONS: APPROPRIATION AND COST BREAKDOWN

Actual 2018/19 $000	Electricity industry governance and market operations appropriation	Actual 2019/20 $000	*Budget 2019/20 $000
68,971	Revenue from the Crown	73,457	**74,936
68,971	Expenditure	73,457	74,936

Notes:

* The budget for 2019/20 corresponds to the Supplementary Estimates of Appropriations for the year ending 30 June 2020.

** An in-principle expense transfer for $1.500 million has been requested from 2019/20 to 2020/21. However, approval will not be confirmed until the October 2020 baseline update.

The above table includes the amount approved in the Government's Estimates of Appropriations for 2019/20 of $74.936 million; representing the maximum expenditure that can be incurred. The following table provides a breakdown of the components of this expenditure.

Actual 2018/19 $000	Electricity industry governance and market operations expenditure	Actual 2019/20 $000	Budget 2019/20 $000
25,759	System operator—operating expenses	25,950	26,550
14,450	System operator—capital related expenses	15,258	17,411
40,209	**System operator expenses**	**41,208**	**43,961**
2,318	Service provider—clearing manager	2,348	2,410
1,623	Service provider—wholesale information and trading system	1,647	1,722
739	Service provider—pricing manager	746	770
894	Service provider—reconciliation manager	908	947
655	Service provider—registry manager	662	673
762	Service provider—financial transmission right manager	794	944
-	Service provider—extended reserve manager	-	350
1,067	Service provider—depreciation and amortisation	1,208	1,885
89	Service provider—IT costs	24	95
8,147	**Other service provider expenses**	**8,337**	**9,796**
2,088	**Facilitating consumer participation expenses**	**-**	**-**
18,527	**Authority operating expenses**	**23,912**	**21,179**
68,971	**Total expenses**	**73,457**	**74,936**

MANAGING THE SECURITY OF NEW ZEALAND'S ELECTRICITY SUPPLY APPROPRIATION

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. These are expected to be rare. This appropriation will not be drawn on in the normal course of events.

SCOPE OF APPROPRIATION

The appropriation is limited to the management of electricity supply emergency events by the system operator, if required, including:

- increased monitoring and management responsibilities in the event of an emerging or actual security situation
- planning and running an official conservation campaign.

Security management 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. The Authority itself cannot incur expenses under this appropriation.

OUR FUNCTIONS UNDER THIS APPROPRIATION

The system operator is responsible for ongoing security monitoring and emergency management.[7] 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 to set requirements for transparency and performance. We also monitor system operator performance. This work is covered under the **promoting market development** and **operating the electricity system and markets** functions respectively of the electricity industry and market operations appropriation (see pages 41 and 43).

Our role in respect to this security management 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 there is 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 enable the Authority to assess the effectiveness of the actions and the funding during and after the event.

The system operator will 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 incur up to $300,000 of costs in this area without prior Authority approval.

7 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 www.transpower.co.nz/system-operator/security-supply

PERFORMANCE MEASURES

Security management contributes to our reliability outcome (see pages 20 to 23 of the *2017–2021 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, its use of that funding would be reviewed as part of the subsequent analysis. The results of the review would be published on our website and a summary would be reported in the outcomes section of our Annual Report. Given the relevant outcome and function performance measures are already captured elsewhere, the measures below are limited to those that demonstrate the Authority has fulfilled its obligations in relation to this appropriation.

MEASURE	TARGET	STATUS	RESULT FOR 2019/20
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.	○ ○ ●	During 2019/20 there were no applications for funding under this appropriation. We have jointly made process improvements with the system operator that we expect will improve the speed and quality of any spending under this appropriation.

Note:

* 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.

APPROPRIATION

Actual 2018/19 $000	Managing the security of New Zealand's electricity supply appropriation*	Actual 2019/20 $000	**Budget 2019/20 $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 previous appropriation, a new appropriation was established commencing on 1 July 2017 and expiring on 30 June 2022. 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 2019/20 budgets within the other financial statements contained in this annual report.

** The budget for 2019/20 corresponds to the Supplementary Estimates of Appropriations for the year ending 30 June 2020.

ELECTRICITY LITIGATION FUND APPROPRIATION

WHAT IS INTENDED TO BE ACHIEVED

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

SCOPE OF APPROPRIATION

This appropriation is limited to the costs and expenses the Authority incurs in participating in litigation.

OUR FUNCTIONS UNDER THIS APPROPRIATION

Our functions under this appropriation include defending cases against the Authority and taking enforcement action under our enforcing compliance function.

PERFORMANCE MEASURES

MEASURE	TARGET	STATUS	RESULT FOR 2019/20
The Electricity Authority uses the litigation fund in accordance with the criteria for use of the fund.*	Criteria met.	○ ○ ●	**Achieved.** During 2019/20, the fund was used in accordance with agreed criteria for the costs and expenses the Authority incurred in participating in five cases of litigation.

Note:

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

There are various compliance matters relating to alleged breaches of the Electricity Industry Participation Code that were covered by the fund in 2019/20. These are currently being reviewed by the Rulings Panel.

One in particular that was closed within the year is the Vector and Entrust DDA: In August 2017, Vector Limited (Vector) and Entrust appealed to the Court of Appeal against the High Court's decision not to grant Vector and Entrust's application for a declaratory judgment that the Authority does not have jurisdiction to introduce a default distribution agreement. The appeal was heard by the Court of Appeal in May 2018 and in November 2018 the Court of Appeal released the first part of its decision. Vector's application was allowed in part, but the Court called for further submissions on one of the issues. A second decision was released in March 2019, whereby the Court declared that the Authority may not regulate quality standards, but Vector was unsuccessful in its application for a declaration that the DDA would be unlawful and the Authority was ordered to pay costs. Vector subsequently contested the High Court costs and a decision was made in November 2019 ordering the Authority to pay costs.

APPROPRIATION

Actual 2018/19 $000	Electricity litigation fund appropriation*	Actual 2019/20 $000	**Budget 2019/20 $000
240	Revenue from the Crown	187	***1,000
240	Expenditure	187	1,000

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 2019/20 budgets within the other financial statements contained in this annual report.

** The budget for 2019/20 corresponds to the Supplementary Estimates of Appropriations for the year ending 30 June 2020.

*** An in-principle expense transfer for $0.700 million has been requested from 2019/20 to 2020/21. However, approval will not be confirmed until the October 2020 baseline update.

PART 4

ORGANISATIONAL CAPABILITY

We are the sector regulator and have a diverse and far reaching role in the development and performance of New Zealand's electricity industry. We ensure competition, reliable supply and efficient operation of the New Zealand electricity industry for the benefit of consumers and the country as a whole. We aspire to be a nimble and intelligent organisation. Growing our reputation for excellence is a key focus for us and we attract experts who want to be part of our innovative approach.

The path to achieving organisational excellence covers:

- our stakeholders
- our people
- our processes.

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, and 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. These include video and graphics which 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.

This part of the Annual Report sets out the Authority's performance for its functions.

OUR PEOPLE

Our people are our greatest asset. We value honesty, integrity and professional judgement, which enables us to perform and deliver to the highest standards and levels of accountability.

Good employer

The principles of being a good employer underpin all of our people and capability processes. We ensure best practice is applied to all our policies and are flexible and reactive to the needs of our people personally and professionally. We interact and engage with our people to achieve the best outcomes for them, the organisation and 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, who work closely across all functions to underpin organisational policies and approaches and to actively grow the diversity of our people, to grow and develop the organisation.

We encourage the respectful sharing and exchange of views to better inform and guide important decisions to deliver outcomes for consumers and the sector. We expect our people to behave ethically and professionally in everything they do to align with our values of integrity, openness, excellence, our people and boldness.

Capability structure and agility

Ensuring achievement of outcomes requires organisational structures that are fit for purpose. We continually review our structures and organisational capability to ensure we have the best people in the right places at the right time.

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

People profile

The Authority attracts capable, talented people from diverse backgrounds with varied skill sets and knowledge. This diversity enables us to partner with the sector to deliver a wide variety of initiatives. As at 30 June 2020 the Authority has a staff of 73, comprising 34 female and 39 male staff.

The Authority does not currently employ any staff who would be considered physically disabled.

The Authority actively focuses on increasing the diversity of our people through recruitment, flexible working arrangements and development.

OUR PROCESSES

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

Regulatory framework

The Act provides our overarching regulatory framework.

We have published our foundation documents, which elaborate on the framework provided by the Act. These are the *Interpretation of the statutory objective*, the *Charter for advisory groups* and the *Consultation charter*.[8]

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.

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

Value for money

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

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

- appropriation consultation: planned work priorities and appropriations are scrutinised through public consultation in accordance with section 129 of the Act
- robust use of planning, project management 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 practical and cost-effective, we work with other agencies on joint procurement and shared services
- taking up All-of-Government procurement offerings, where applicable
- sharing IT support services with the Commerce Commission
- exploring other shared services opportunities as these arise.

Authority planning and reporting

The Crown Entities Act 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, our statutory plans and our work programme.

In addition, we also publish our work programme, which includes key market development projects and four monthly reports on progress.

Risk management

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

Responsibility for ensuring we manage risk is shared at Board, SLT and individual level. This responsibility is underpinned and supported by policies and registers developed at SLT level and owned by the Board, but organisationally 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.

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 been classified as a Tier Three Agency. As such, we have to 'give effect' to some of the requirements, and 'have regard' to the others.

The Authority received a formal notice of updated NZBN implementation requirements. The Authority is complying with having regards to requirements one and two, as required of a Tier Three Agency.

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.

Progress has been made with the following systems:

1. The Authority finance system was upgraded in March 2016 and a field to capture the NZBN number was established. All existing active suppliers have been allocated NZBNs by searching the NZBN Register, and new suppliers' NZBNs are captured as part of the setup and validation process. However, we see limited value in automating the updating of supplier details through an Application Programming Interface (API).[9]
2. The Participant Register (register of participants in the industry) is currently held in an excel spreadsheet; we have commenced a project that seeks to consider the option of developing a portal for participants; the intention is to have an API connection to NZBN.

9 An API allows data exchange between various program components.

OUR YEAR IN REVIEW 2019/20

JULY 2019

Issues paper on transmission pricing methodology (TPM) published.

AUGUST 2019

Practice note to support the Distribution Pricing Principles published.

OCTOBER 2019

'Quick wins' project completed making it easier for consumers to share their electricity consumption data.

FEBRUARY 2020

Decision to ban saves and win-backs.

MARCH 2020

Responded to the COVID-19 pandemic and adopted new ways of working.

Consulted on enduring market making arrangements.

APRIL 2020

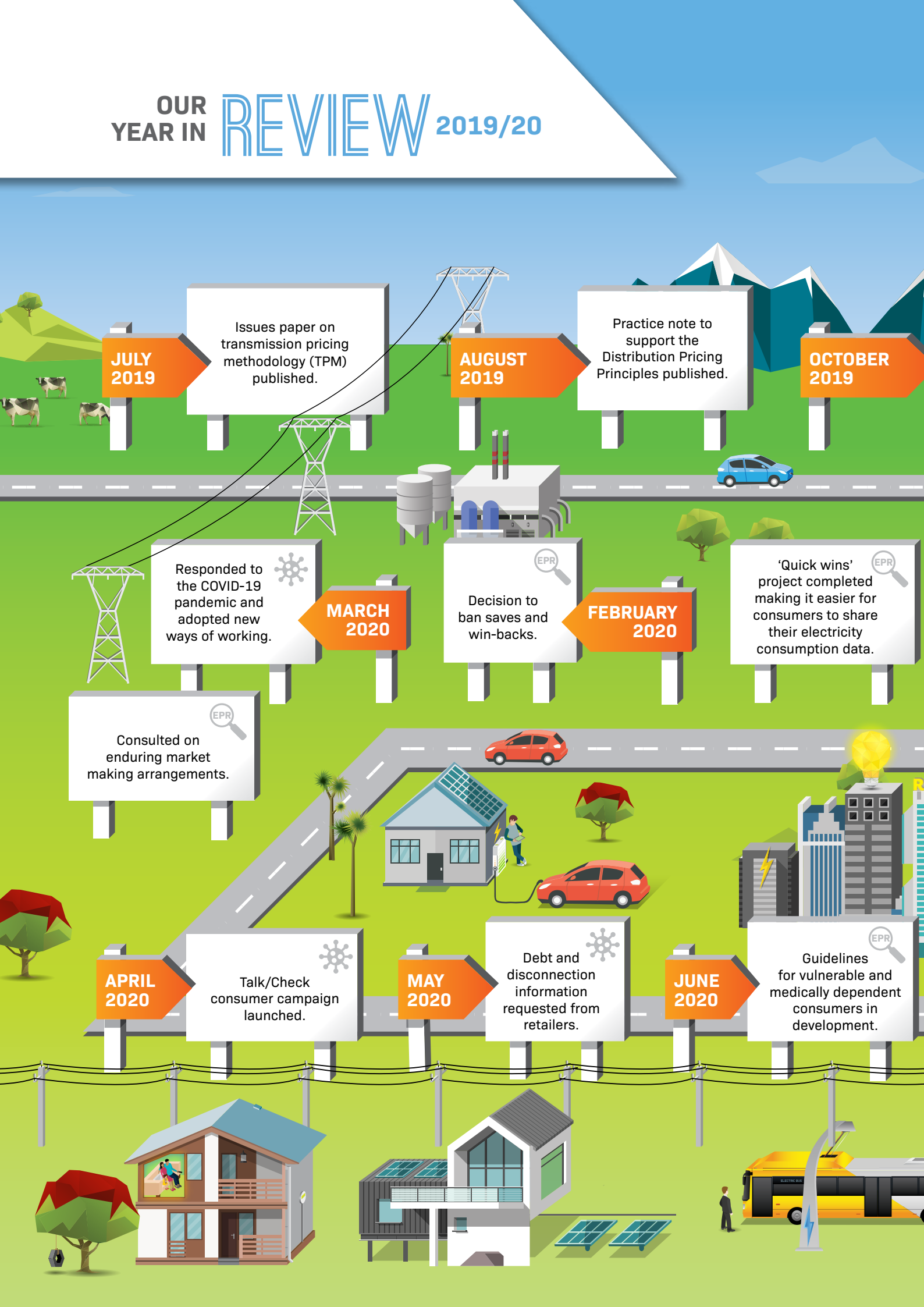
Talk/Check consumer campaign launched.

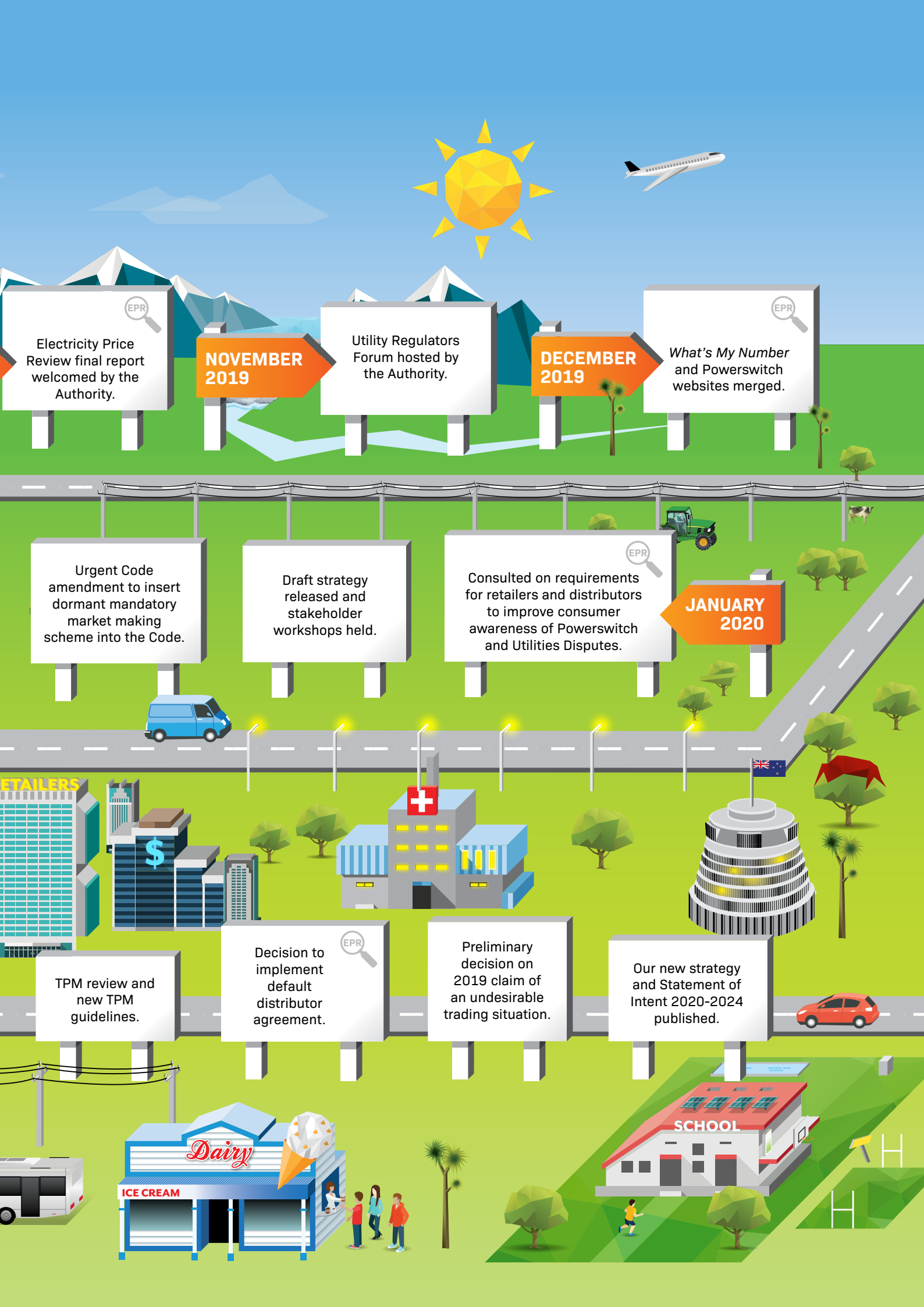
MAY 2020

Debt and disconnection information requested from retailers.

JUNE 2020

Guidelines for vulnerable and medically dependent consumers in development.




Electricity Price Review final report welcomed by the Authority.
NOVEMBER 2019
Utility Regulators Forum hosted by the Authority.
DECEMBER 2019
What's My Number and Powerswitch websites merged.
Urgent Code amendment to insert dormant mandatory market making scheme into the Code.
Draft strategy released and stakeholder workshops held.
Consulted on requirements for retailers and distributors to improve consumer awareness of Powerswitch and Utilities Disputes.
JANUARY 2020
TPM review and new TPM guidelines.
Decision to implement default distributor agreement.
Preliminary decision on 2019 claim of an undesirable trading situation.
Our new strategy and Statement of Intent 2020-2024 published.
RETAILERS
Dairy
ICE CREAM
SCHOOL

PART 5

FINANCIAL STATEMENTS

The financial statements report actual results against budget information in the Authority's 2019/20 *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 2020

Actual 2018/19 $000		Note	Actual 2019/20 $000	*Budget 2019/20 $000
69,211	Funding from the Crown	2	73,644	74,936
476	Interest revenue		340	400
69,687	**Total revenue**		**73,984**	**75,336**
11,026	Personnel costs	3	13,844	11,987
1,266	Depreciation, amortisation and impairment	7,8	1,436	2,157
47,288	Service provider contracts		48,337	51,872
9,631	Other expenses	4	10,027	8,920
69,211	**Total expenditure**		**73,644**	**74,936**
476	**Total comprehensive revenue and expense**		**340**	**400**

*Budget amounts are unaudited.

The accompanying notes form part of these financial statements. Explanations for major variances to budget are provided in **Note 22**.

STATEMENT OF CHANGES IN EQUITY

for the year ended 30 June 2020

Actual 2018/19 $000		Note	Actual 2019/20 $000	*Budget 2019/20 $000
12,532	Balance at 1 July		13,008	12,850
476	Total comprehensive revenue and expense	5	340	400
13,008	**Balance at 30 June**		**13,348**	**13,250**

*Budget amounts are unaudited.

The accompanying notes form part of these financial statements. Explanations for major variances to budget are provided in **Note 22**.

STATEMENT OF FINANCIAL POSITION

as at 30 June 2020

Actual 2018/19 $000		Note	Actual 2019/20 $000	*Budget 2019/20 $000
	ASSETS			
	Current assets			
16,679	Cash and cash equivalents	6	16,631	15,532
15	Receivables and prepayments		54	200
248	GST receivable		-	-
16,942	**Total current assets**		**16,685**	**15,732**
	Non-current assets			
327	Property, plant and equipment	7	332	363
4,930	Intangible assets	8	4,270	5,355
5,257	**Total non-current assets**		**4,602**	**5,718**
22,199	**Total assets**		**21,287**	**21,450**
	LIABILITIES			
	Current liabilities			
6,698	Payables and accruals	9	5,694	7,000
886	Employee entitlements	10	819	1,000
-	GST payable		116	200
1,581	Appropriation repayable to the Crown	11	1,292	-
9,165	**Total current liabilities**		**7,921**	**8,200**
	Non-current liabilities			
26	Employee entitlements	10	18	-
26	**Total non-current liabilities**		**18**	**-**
9,191	**Total liabilities**		**7,939**	**8,200**
13,008	**Net assets**		**13,348**	**13,250**
	EQUITY			
9,011	Contributed capital		9,011	9,011
3,997	Accumulated surplus		4,337	4,239
13,008	**Total equity**		**13,348**	**13,250**

*Budget amounts are unaudited.

The accompanying notes form part of these financial statements. Explanations for major variances to budget are provided in **Note 22**.

STATEMENT OF CASH FLOWS

for the year ended 30 June 2020

Actual 2018/19 $000		Note	Actual 2019/20 $000	*Budget 2019/20 $000
	CASH FLOWS FROM OPERATING ACTIVITIES			
70,792	Receipts from the Crown		74,936	74,936
476	Interest from investments		340	400
(1,811)	Repayment of appropriation to the Crown		(1,581)	-
(56,763)	Payments to suppliers		(59,407)	(60,792)
(10,994)	Payments to personnel		(13,919)	(11,987)
(3)	Goods and services tax (net)		364	-
1,697	**Net cash flows from operating activities**	12	**733**	**2,557**
	CASH FLOWS FROM INVESTING ACTIVITIES			
1	Receipts from the sale of fixed assets		-	-
(198)	Purchase of property, plant and equipment		(173)	(250)
(715)	Purchase of intangible assets		(608)	(2,035)
(912)	**Net cash flows from investing activities**		**(781)**	**(2,285)**
785	**Net increase in cash and cash equivalents**		**(48)**	**272**
15,894	Cash and cash equivalents at beginning of year		16,679	15,260
16,679	**Cash and cash equivalents at end of period**		**16,631**	**15,532**

*Budget amounts are unaudited.

The accompanying notes form part of these financial statements. Explanations for major variances to budget are provided in **Note 22**.

STATEMENT OF COMMITMENTS

as at 30 June 2020

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, with the exception of the FTR manager that has a contract term to 1 May 2021.

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

Actual 2018/19 $000		Actual 2019/20 $000
	OPERATING COMMITMENTS	
	Service providers	
49,322	Not later than one year	49,659
111,568	Later than one year but not later than five years	61,916
-	Later than five years	-
160,890		**111,575**
	Building lease	
512	Not later than one year	512
1,152	Later than one year but not later than five years	640
-	Later than five years	-
1,664		**1,152**
	Other operating commitments	
761	Not later than one year	1,352
-	Later than one year but not later than five years	3,669
-	Later than five years	19
761		**5,040**
163,315	**Total operating commitments**	**117,767**
	CAPITAL COMMITMENTS	
	Intangible assets	
449	Not later than one year	463
1,861	Later than one year but not later than five years	1,399
-	Later than five years	-
2,310		**1,862**
2,310	**Total capital commitments**	**1,862**

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. The Authority's ultimate parent is the New Zealand Crown.

The Authority's primary objective 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 2019 to 30 June 2020 and were approved by the Board on 3 September 2020.

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

An amendment to PBE IPSAS 2 Statement of Cash Flows requires entities to provide disclosures that enable users of financial statements to evaluate changes in liabilities arising from financing activities, including both changes arising from cash flows and non-cash changes. This amendment is effective for annual periods beginning on or after 1 January 2021, with early application permitted. The Authority has assessed these amendments as having no material effect on its 2019/20 financial statements.

PBE IPSAS 34-38 replace the existing standards for interests in other entities (PBE IPSAS 6-8). These new standards are effective for annual periods beginning on or after 1 January 2019. The Authority has assessed these amendments as having no material effect on its 2019/20 financial statements.

PBE issued 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 not assessed the effect of this amendment and this will be evaluated prior to the due date.

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 2021. The Authority has not yet determined how application of PBE FRS 48 will affect its statement of service performance.

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 and prepayments are recorded at their face value, less any provision for impairment.

A receivable is considered impaired when there is evidence that the Authority will not be able to collect the amount due. The amount of the impairment is the difference between the carrying amount of the receivable and the present value of the amounts expected to be collected.

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 or valuation, 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	Unexpired period of the lease	

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.

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	3–9 years	11%–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.

Restructuring

A provision for restructuring is recognised when either an approved detailed formal plan for the restructuring has been announced publicly to those affected, or implementation of it has already started.

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) is included as part of receivables or payables in the statement of financial position.

The amount of GST owing from or to the Inland Revenue Department at balance date, being the difference between Output GST and Input GST, is included under current assets and current liabilities respectively.

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 2019/20 SPE, 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 had no material impact on the Authority's revenue, expenses, assets, liabilities and cashflow for financial year 2019/20. Some individual projects were paused or delayed which may impact future financial years. However, the Authority is not able to assess the impact of this delay at this point in time.

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 a number of 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 2019/20 $000	Actual 2018/19 $000
Electricity industry governance and market operations	73,457	68,971
Managing the security of New Zealand's electricity supply	-	-
Electricity litigation fund	187	240
	73,644	**69,211**

3. PERSONNEL COSTS

	Actual 2019/20 $000	Actual 2018/19 $000
Salaries and contractors	13,375	10,637
Contributions to defined contribution plans	404	386
Increase in annual and long service leave provision	65	3
	13,844	**11,026**

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

4. OTHER EXPENSES

	Actual 2019/20 $000	Actual 2018/19 $000
Facilitating consumer participation	-	2,088
External work programme support	4,834	3,595
Litigation fund	187	240
Auditor fees for external audit	49	49
Advisory and working group fees (Note 16)	71	67
Board member remuneration (Note 14)	654	585
Rulings Panel remuneration (Note 15)	88	105
Operating lease expenses	580	513
Travel expenses	181	222
Other operating expenses	2,768	2,167
	10,027	**9,631**

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 2019 to 30 June 2020, and the operating surplus of $0.340 million has been used to increase equity.

	Actual 2019/20 $000	Actual 2018/19 $000
Interest revenue	340	476
	340	**476**

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 2019/20 $000	Actual 2018/19 $000
Cash in current account	1,131	279
Cash on call in interest-bearing money market account	1,000	2,400
Cash on three-month term deposit	14,500	14,000
	16,631	**16,679**

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 improvements $000	Total $000
COST OR VALUATION:					
Balance at 1 July 2018	512	79	368	730	**1,689**
Additions	68	116	14	-	**198**
Disposals	(8)	(24)	-	-	**(32)**
Balance at 30 June 2019	**572**	**171**	**382**	**730**	**1,855**
Balance at 1 July 2019	572	171	382	730	**1,855**
Additions	103	19	51	-	**173**
Disposals	-	-	-	-	**-**
Balance at 30 June 2020	**675**	**190**	**433**	**730**	**2,028**
ACCUMULATED DEPRECIATION:					
Balance at 1 July 2018	368	68	338	653	**1,427**
Depreciation expense	79	16	18	19	**132**
Eliminate on disposal	(8)	(23)	-	-	**(31)**
Impairment losses	-	-	-	-	**-**
Balance at 30 June 2019	**439**	**61**	**356**	**672**	**1,528**
Balance at 1 July 2019	439	61	356	672	**1,528**
Depreciation expense	105	26	18	19	**168**
Eliminate on disposal	-	-	-	-	**-**
Impairment losses	-	-	-	-	**-**
Balance at 30 June 2020	**544**	**87**	**374**	**691**	**1,696**
NET CARRYING VALUE:					
At 1 July 2018	144	11	30	77	**262**
At 30 June 2019 and 1 July 2019	133	110	26	58	**327**
At 30 June 2020	**131**	**103**	**59**	**39**	**332**

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.

	Software and systems $000
COST OR VALUATION:	
Balance at 1 July 2018	28,904
Additions	715
Disposals	-
Balance at 30 June 2019	**29,619**
Balance at 1 July 2019	29,619
Additions	608
Disposals	-
Balance at 30 June 2020	**30,227**
ACCUMULATED AMORTISATION:	
Balance at 1 July 2018	23,555
Amortisation expense	1,134
Eliminate on disposal	-
Impairment losses	-
Balance at 30 June 2019	**24,689**
Balance at 1 July 2019	24,689
Amortisation expense	1,268
Eliminate on disposal	-
Impairment losses	-
Balance at 30 June 2020	**25,957**
Net carrying value:	
At 1 July 2018	5,349
At 30 June 2019 and 1 July 2019	4,930
At 30 June 2020	**4,270**

The Authority's intangible assets are comprised of acquired software, systems and associated licences; the most significant of which is the software used in the operation of the electricity market. At 30 June 2020 this software had a cost of $27.345 million, net carrying value of $3.466 million and an estimated remaining useful life of between three and five years. In 2017/18, an impairment expense of $1.301 million was recognised for costs associated with the implementation and operation of a new extended reserves management scheme in the New Zealand electricity system. At 30 June 2020, uncertainty remained as to the future usefulness of the systems and the value-in-use therefore, remains at zero.

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 2019/20 $000	Actual 2018/19 $000
Creditors	55	1,614
Accrued expenses	5,639	5,084
	5,694	**6,698**

10. EMPLOYEE ENTITLEMENTS

A provision for sick leave was calculated and assessed as immaterial.

	Actual 2019/20 $000	Actual 2018/19 $000
Current portion		
Annual leave	660	589
Accrued salary	153	169
Restructuring	-	125
Long service leave	6	3
Total current portion	**819**	**886**
Non-current portion		
Long service leave	18	26
Total non-current portion	**18**	**26**
	837	**912**

The Chief Executive approved a detailed and formal restructuring plan, which was announced in June 2019. The restructuring plan and associated payments were completed in August 2019. A second restructure to outsource project capabilities was announced in September 2019 and completed in October 2019. A total of $255,775 was paid during financial year 2019/20 as compensation relating to cessation of employment.

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 2019/20 $000	Actual 2018/19 $000
Net Crown appropriations drawn down	74,936	70,792
Less total Authority expenditure	(73,644)	(69,211)
Appropriation repayable to the Crown	**1,292**	**1,581**

12. RECONCILIATION OF NET OPERATING SURPLUS TO NET CASH FLOWS

	Actual 2019/20 $000	Actual 2018/19 $000
NET OPERATING SURPLUS	**340**	**476**
Add non-cash items		
Depreciation, amortisation and impairment	1,436	1,266
(Decrease)/increase in non-current employee entitlements	(8)	2
Total non-cash items	**1,428**	**1,268**
Add movements in working capital items		
(Increase)/decrease in receivables and prepayments	(39)	283
Increase/(decrease) in GST payables	364	(3)
(Decrease) in payables and accruals	(1,004)	(127)
(Decrease)/increase in employee entitlements	(67)	30
(Decrease) in provision for refund of appropriation	(289)	(230)
Net working capital movements	**(1,035)**	**(47)**
Net cash flow from operating activities	**733**	**1,697**

13. EMPLOYEE REMUNERATION

During the period 1 July 2019 to 30 June 2020, ten employees received compensation in relation to cessation totalling $255,775 (2019: $35,649).

Remuneration band	Actual 2019/20	Actual 2018/19
$100,000–$109,999	4	3
$110,000–$119,999	1	1
$120,000–$129,999	4	4
$130,000–$139,999	5	5
$140,000–$149,999	2	3
$150,000–$159,999	1	4
$160,000–$169,999	3	5
$170,000–$179,999	5	6
$180,000–$189,999	3	1
$190,000–$199,999	1	2
$200,000–$209,999	3	2
$210,000–$219,999	2	3
$220,000–$229,999	2	2
$230,000–$239,999	-	-
$240,000–$249,999	1	1
$250,000–$259,999	1	1
$260,000–$269,999	2	-
$270,000–$279,999	1	-
$280,000–$289,999	-	1
$330,000–$339,999	-	1
$370,000–$379,999	1	-
$420,000–$429,999	-	-
	42	**45**

14. BOARD MEMBER REMUNERATION

No Board members received compensation or other benefits in relation to cessation (2019: 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 2019/20 $000	Actual 2018/19 $000
Dr Brent Layton	180	170
Susan Paterson	93	99
Allan Dawson	109	89
Sandra Gamble	72	83
Lana Stockman	112	90
Mark Sandelin	88	54
	654	**585**

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

15. RULINGS PANEL REMUNERATION

The membership of the Rulings Panel changed during the year. Three new members were appointed replacing two members whose contract expired and one member who passed away during the financial year.

	Actual 2019/20 $000	Actual 2018/19 $000
Peter Dengate Thrush	36	46
Geraldine Baumann	14	17
John O'Sullivan	4	24
Susan Roberts	2	12
Nicola Wills	6	6
Mel Orange	18	-
Denis O'Rourke	2	-
Lee Wilson	6	-
	88	**105**

16. 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.

		Actual 2019/20 $000	Actual 2018/19 $000
Security and Reliability Council	Heather Roy (Chair)	11	12
	Mike Underhill (Chair)	-	1
	Anne Herrington	1	1
	Barbara Elliston	3	2
Market Development Advisory Group	Tony Baldwin (Chair)	16	16
	Ann Whitfield	2	-
	Al Yates	3	-
Innovation and Participation Advisory Group	John Hancock (Chair)	17	23
	Allan Miller	3	8
	Rosalind Archer	3	2
	Tim Rudkin	8	2
	Scott Willis	4	-
		71	**67**

17. 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 EMS, for a total of $42.494 million (2019: $41.851 million).

KEY MANAGEMENT PERSONNEL COMPENSATION

Key management personnel include the Board and senior leadership team (Chief Executive, Chief Operating Officer, Chief Strategy Officer and general managers). Their remuneration and full-time equivalents were as follows:

	Actual 2019/20	Actual 2018/19
Board Members		
Remuneration ($000)	654	585
Full-time equivalent members	*1.75*	*1.65*
Senior Leadership Team		
Remuneration ($000)	1,666	1,467
Full-time equivalent members	*6.02*	*4.85*
Total key management personnel remuneration ($000)	**2,320**	**2,052**
Total full time equivalent personnel	**7.77**	**6.50**

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.

18. FINANCIAL INSTRUMENT RISKS

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

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.

19. 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.

20. CONTINGENCIES

The Authority had a contingent liability relating to legal action instigated by Vector Limited in August 2017. This case was concluded in November 2019 ordering the Authority to pay costs. There is no longer any contingent liability associated with this case.

There are no known contingent assets (2018/19: Nil) and no guarantees under the Crown Entities Act 2004 (2018/19: Nil).

21. POST-BALANCE DATE EVENTS

No significant events that would materially affect the financial statements have occurred between 30 June 2020 and the date of signing the financial statements.

22. EXPLANATION OF MAJOR VARIANCES AGAINST BUDGET

EXPENDITURE AGAINST APPROPRIATIONS

Appropriations and output classes	Actual 2019/20 $000	Budget 2019/20 $000	Variance $000
OPERATIONAL APPROPRIATION:			
Electricity industry governance and market operations	73,457	74,936	1,479
CONTINGENT APPROPRIATIONS:			
Managing the security of New Zealand's electricity supply	-	-	-
Electricity litigation fund	187	-	(187)
Total	**73,644**	**74,936**	**1,292**

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 2019/20 was $1.479 million less than budget. This was primarily driven by reduction in system operator and service provider expenses $4.211 million that is partly offset by increase in authority operating expenses of $2.732 million.

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 2019/20.

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 2019/20 was $0.187 million.

STATEMENT OF COMPREHENSIVE REVENUE AND EXPENSE

Crown appropriations
Revenue from Crown appropriations was $1.479 million lower than the budget in 2019/20. The Authority recognises Crown appropriation revenue up to the level of actual expenditure incurred. Appropriation revenue will therefore be under budget to the extent that expenditure is under budget.

Depreciation, amortisation and impairment
Depreciation, amortisation and impairment expenses were $0.721 million lower than budget. This was mainly due to lower system amortisation expenses due to delays in commissioning dates and a smaller number of system changes than were budgeted for.

Personnel
Personnel costs were $1.857 million higher than budget. The increase in costs funded an uplift in capability across the organisation, supported key published work programme initiatives and enabled the Authority to give priority to the Government's response to the Electricity Pricing Review recommendations.

Service provider contracts
Costs associated with the system operator and market service providers were $3.535 million lower than budget. This was primarily driven by system operator expenses that were $2.753 million below budget due to the system operator's recovery on investments in assets being lower than the maximum provided for when the appropriation was set and a smaller consumer price index increase than was budgeted for.

Other expenses
Other expenses were $1.107 million higher than the budget. This is primarily due to the development of the Authority's strategy, addressing organisational deferred maintenance, and unbudgeted spend on the investigation into the November UTS claim and the focus on urgent COVID-19 related sector issues, primarily the response to retailer debt.

STATEMENT OF FINANCIAL POSITION

Cash and cash equivalents
Cash and cash equivalents were $1.099 million higher than budget — explanations for this variance are outlined in the statement of cash flows section later in this note.

Intangible assets
Intangible assets were $1.085 million lower than budget due to lower than budgeted capital expenditure on system changes.

Refund of appropriation to the Crown
The Authority incurred expenditure that was $1.292 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
Authority received $74.936 million cash from the Crown which is in line with the budget appropriation. $1.292 million appropriation repayable to the Crown being the difference between actual spend for the financial year and the cash received from Crown is recognised in the statement of financial position under current liabilities. $0.187 million expenditure was incurred under the Litigation fund during the 2019/20 year. No cash was drawn down as the Authority had sufficient unspent cash from the Electricity industry governance and market operations appropriation to meet litigation costs.

Payments to suppliers
Payments to suppliers were $1.385 million lower than budget, primarily due to lower system operator and service provider expenditure.

Cash and cash equivalents at 30 June 2020
The closing cash balance at 30 June 2020 was $1.099 million higher than budget. This was primarily due to brought forward cash balance of $1.419 million combined with lower cash payments to suppliers, principally the system operator and service provider.

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 2019 to 30 June 2020 the levies collected were 1.1 per cent greater than the expenditure to be recovered. The difference is expected to be $0.848 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 2019/20 $000	Actual 2018/19 $000
Total levies collected by the Crown	**79,692**	**79,727**
Electricity Authority expenditure	73,644	69,211
Energy Efficiency and Conservation Authority (EECA operations)	5,200	5,200
Total expenditure to be recovered by levies	**78,844**	**74,411**
Total owed to levy payers by the Crown	**848**	**5,316**

INDEPENDENT AUDITOR'S REPORT

To the readers of the Electricity Authority's financial statements and performance information for the year ended 30 June 2020

The Auditor-General is the auditor of the Electricity Authority (the Authority). The Auditor-General has appointed me, Chris Webby, 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 56 to 76, that comprise the statement of financial position as at 30 June 2020, the statement of comprehensive revenue and expenses, 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 10 to 11, 16 to 25, 28 to 49 and 96.

In our opinion:

- the financial statements of the Authority on pages 56 to 76:
  - » present fairly, in all material respects:
    - – its financial position as at 30 June 2020; 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 10 to 11, 16 to 25, 28 to 49 and 96:
  - » presents fairly, in all material respects, the Authority's performance for the year ended 30 June 2020, 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 3 September 2020. This is the date at which our opinion is expressed.

The basis for our opinion is explained below, and we draw attention to the impact of COVID-19 on the Authority. 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.

EMPHASIS OF MATTER – IMPACT OF COVID-19

Without modifying our opinion, we draw attention to the disclosures about the impact of COVID-19 on the Authority as set out in the accounting policies to the financial statements on page 63 and page 39 of the performance information.

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 2 to 9, 12 to 15, 50 to 55, 77 to 95 and 97 to 99, 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 (Revised): 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.

Chris Webby
Audit New Zealand
On behalf of the Auditor-General
Wellington, New Zealand

AUDIT NEW ZEALAND
Mana Arotake Aotearoa

APPENDIX A:

MEASURES OF COMPETITION, RELIABILITY AND EFFICIENCY

This appendix provides detailed information to support the summary of progress to date against the suite of statistics used to assess the competition, reliability and efficiency limbs of our statutory objective (see Part 1).

HIGH-LEVEL OVERVIEW

Overall in 2019/20 we have seen improvements across a range of indicators. Indicators of competition in the retail, ancillary services and hedge markets remain encouraging. However, the claim and ongoing investigation of a UTS during November and December 2019 may point to some underlying issues in the market. Prices during fuel supply scarcity in 2020 reflected underlying fundamentals, although more in-depth investigation will be carried out in 2020/21.

A notable event occurred when South Island hydro generators were spilling water in November and December 2019 and prices remained higher than expected. A claim of an Undesirable Trading Situation (UTS) was received and is under investigation. As part of this investigation, the Authority published a preliminary decision at the end of June 2020. The preliminary decision paper discussed how outcomes in the spot market did not match our expectations of a power system with abundant cheap fuel and there may have been significant unnecessary spill. This preliminary decision is under consultation.

The evidence set out in the preliminary decision paper and the impacts signal reduced efficiency of the electricity system. The spot price was higher than we would expect in the circumstances, which reduces demand and therefore reduces consumer welfare and allocative efficiency. The high prices also caused more expensive thermal generation to run in the North Island while there was excess spill in the South Island. This is a reduction in productive efficiency. The possible effects on the forward market prices — which are used to signal investments — may affect dynamic efficiency. If these adverse outcomes in the spot market flow through to confidence in the forward and FTR markets, this would undermine efficient risk management and therefore competition, ultimately increasing prices for consumers.

The preliminary decision paper also discusses how the high prices that occurred — while hydro generators were spilling water — suggest a lack of competitive pressure on these hydro generators to reduce their offers in response to the high inflows and consequent spilling.

COMPETITION

The suite of statistics used to assess electricity market competition and summary results to date, are:[10]

1. Retail market concentration (HHI statistic) – **improving trend.**
2. Retail market share (CR4 statistic) – **improving trend.**
3. We are now using a net pivotal analysis in the place of the residual supply (RS) analysis – **The most net pivotal generator is still only net pivotal less than one per cent of the time.**
4. Hedge market concentration (HHI statistic) – **HHIs were low overall for both monthly and quarterly contracts.**
5. Concentration in the ancillary services market (HHI of reserves statistic) – **The HHI for New Zealand has remained low and stable since the introduction of the national market for reserves.**
6. Increased number of retailers' approaches to consumers with offers to induce switching (measured by survey) – **approaches increased up until 2014 and have fallen to 2018 (not measured in 2019).**

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

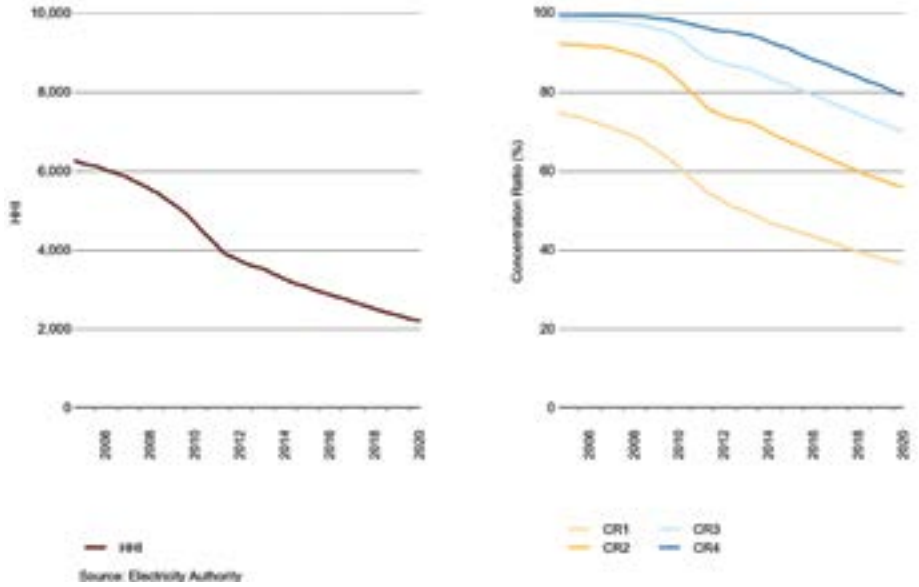
10 See the glossary for explanations of these statistics.

RETAIL MARKET CONCENTRATION/SHARE (STATISTICS 1 & 2)

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 6** shows these measures are falling in the residential retail market. This indicates the structure of the market is improving.

FIGURE 6: RETAIL MARKET CONCENTRATION/SHARE (RESIDENTIAL ONLY)

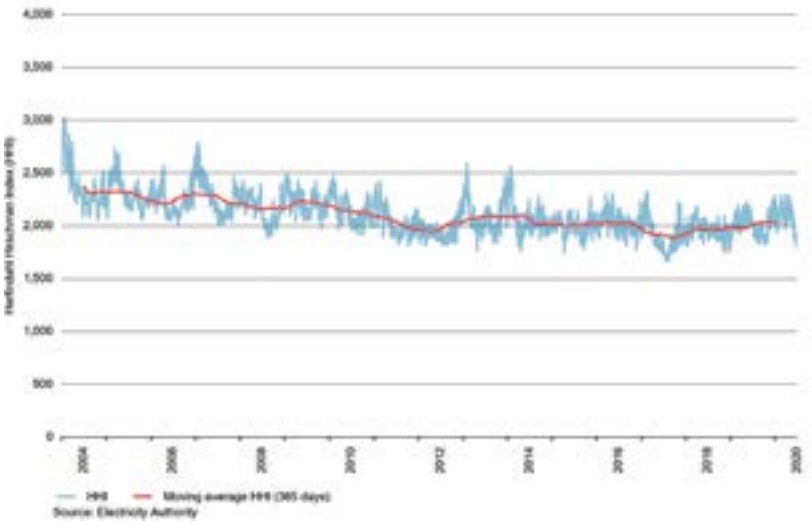


GENERATION MARKET CONCENTRATION

We also look at HHI in the area of electricity generation. **Figure 7** shows the HHI is trending downwards 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. High inflows during 2019 and 2020 have meant the HHI has increased as large hydro generators produce more. This increases the market share of these hydro generators, creating the increase in the HHI.

The chart shows concentration decreasing over the long-term.

FIGURE 7: GENERATION MARKET CONCENTRATION



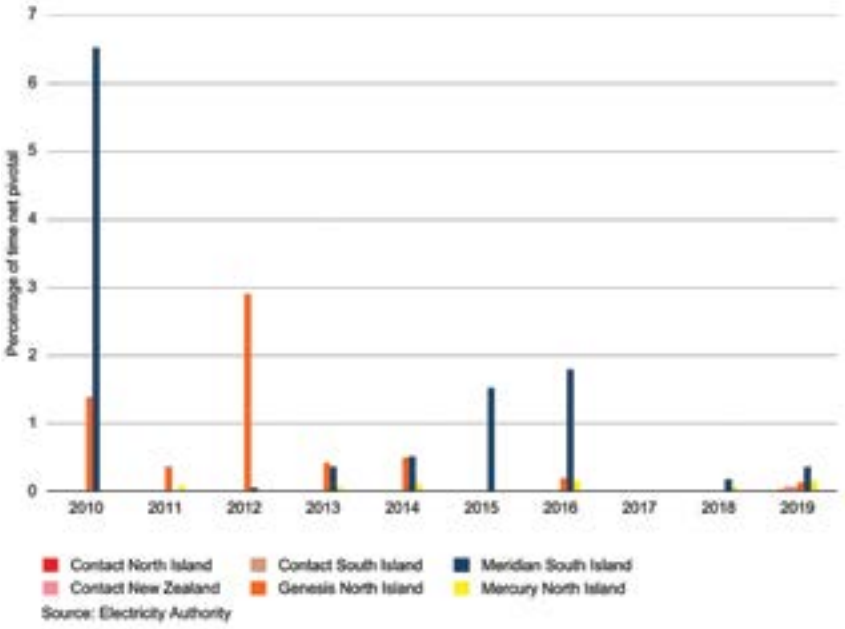
NET PIVOTAL ANALYSIS (STATISTIC 3)

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. 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. Most often this gives a negative number which means the trader would not be able to profitably increase its offers. We measure the percentage of time a trader's residual amount of energy is positive. We define the trader as being net pivotal in these cases.

Figure 8 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 per cent of trading periods. Meridian Energy is the generator who is most frequently net pivotal, due to their concentration of generation in the South Island. In 2019, Contact, Genesis and Mercury also had a small number of trading periods in which they were net pivotal.

Overall, the long-term trend is downwards. Meridian in the South Island was net pivotal slightly more often between 2013 and 2016, but not for more than two per cent of the time. We saw a large fall between 2010 and 2011, which was mostly due to the Government's transfer of Tekapo A and B from Meridian to Genesis and virtual asset swap agreements, which meant capacity was more evenly shared between generators.[11]

FIGURE 8: NET PIVOTAL ANALYSIS



11 The virtual asset swap contracts involves Meridian Energy selling electricity by way of financial hedges, up to 450 GWh/year to Genesis Energy and 700 GWh/year to Mighty River Power in the South Island and buying the same volumes of electricity from Genesis Energy and Mighty River Power in the North Island.

HEDGE MARKET CONCENTRATION (STATISTIC 4)

We monitor the hedge market's HHI (statistic 4). **Figures 9 and 10** 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 just over 2000 as at 6 July 2020. Monthly contracts exhibit more volatile HHIs than quarterly contracts.

FIGURE 9: HEDGE MARKET CONCENTRATION FOR MONTHLY BUYERS

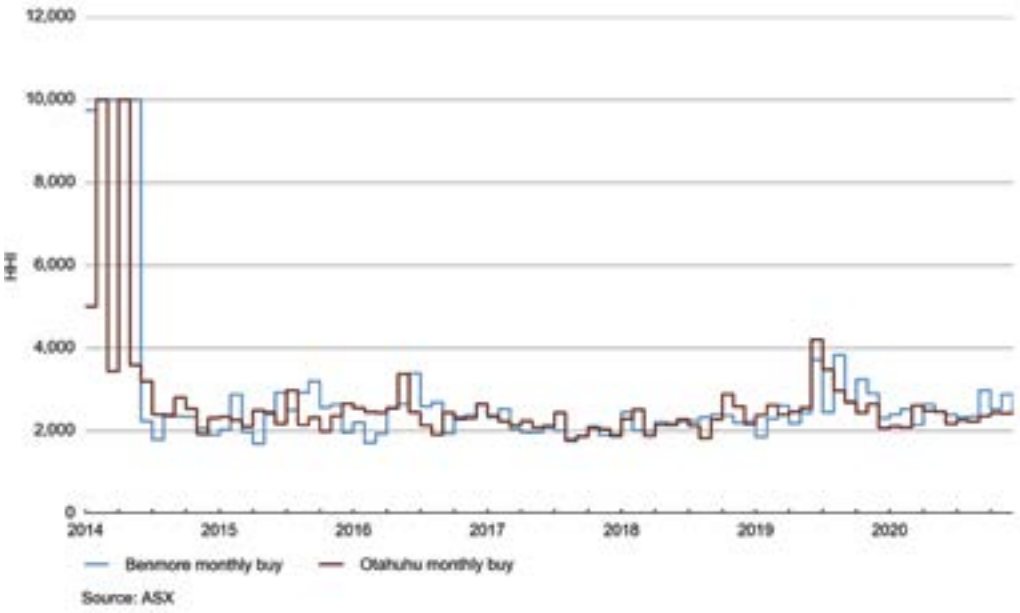


FIGURE 9.5: HEDGE MARKET CONCENTRATION FOR QUARTERLY BUYERS

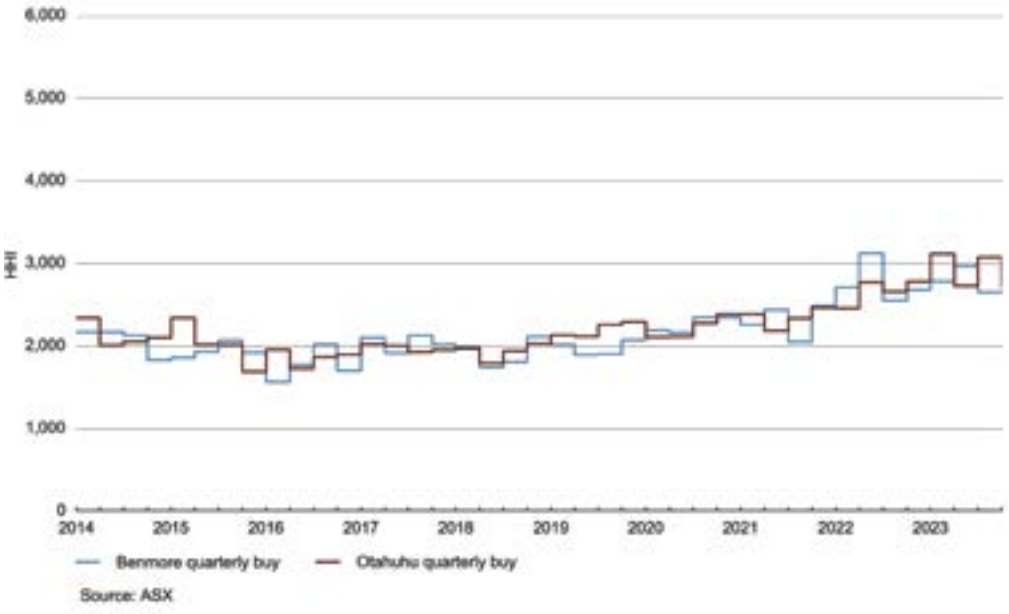


FIGURE 10: HEDGE MARKET CONCENTRATION FOR MONTHLY SELLERS

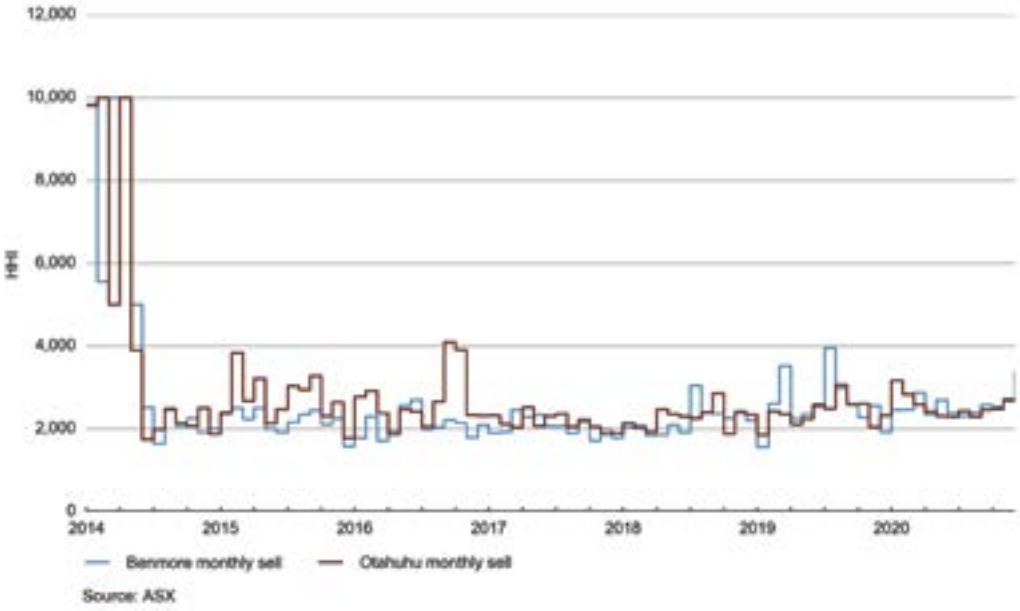
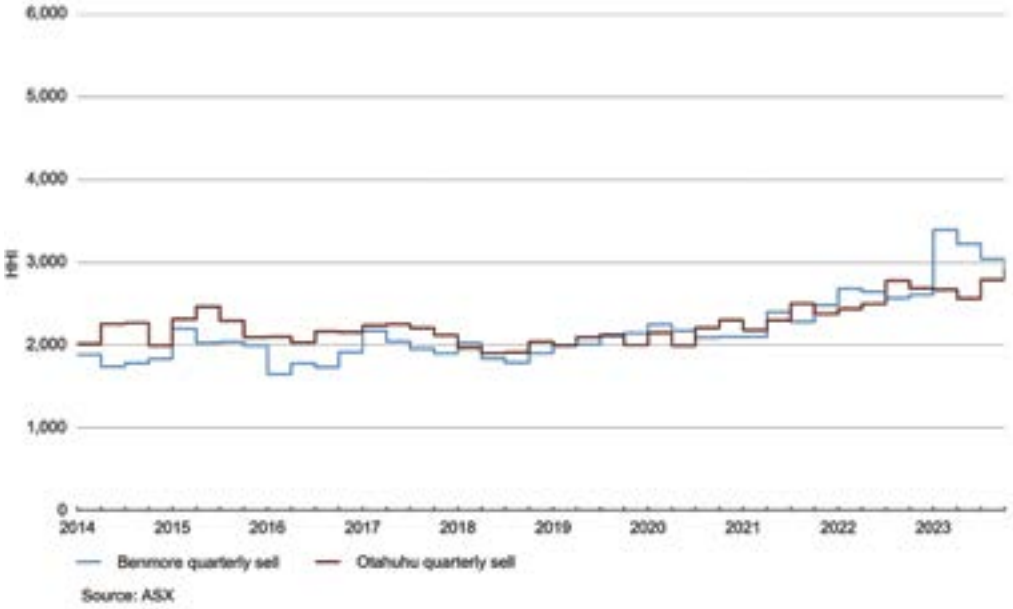


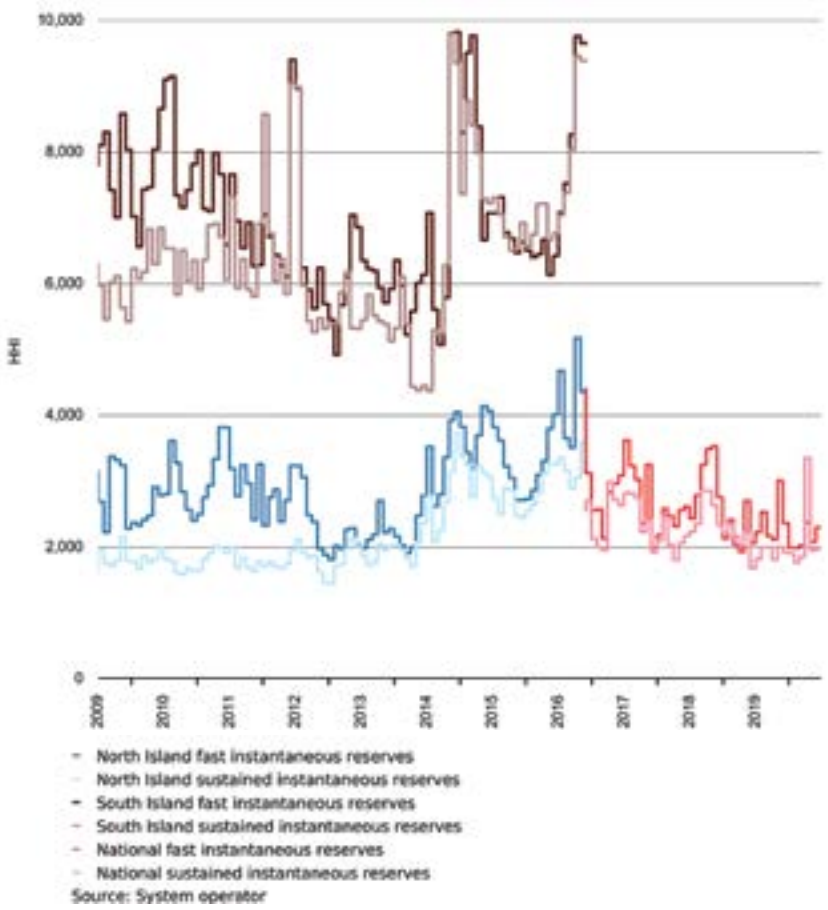
FIGURE 10.5: HEDGE MARKET CONCENTRATION FOR QUARTERLY SELLERS



RESERVES MARKET CONCENTRATION (STATISTIC 5)

The structure of the reserves market is shown in **Figure 11,** which tracks the monthly HHI for the reserve markets in both islands (statistic 5). The South Island reserves market was more concentrated than the North Island simply because there are fewer generators able to provide the service. The chart shows the introduction of a national market for instantaneous reserves has meant a larger market and a lower HHI (the red lines in Figure 11).

FIGURE 11: RESERVES MARKET CONCENTRATION

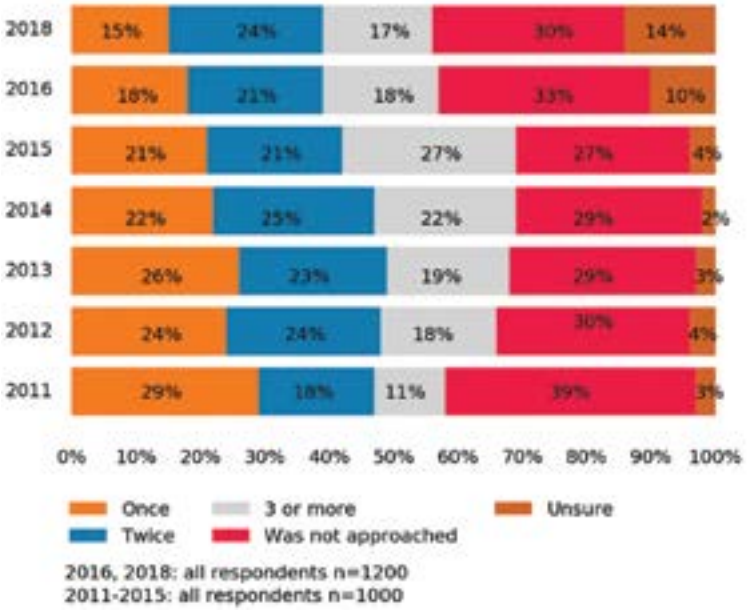


Source: System operator

APPROACHES TO CONSUMERS TO SWITCH (STATISTIC 6)

Figure 12 shows the number of consumers who have been approached — by phone or door knocking — by retailers from 2011 to 2018 (statistic 6). There was no survey conducted in 2019, so the results presented here are the same as in last year's Annual Report. The chart shows approaches have increased up until 2014 then fell in 2016. Fifty six per cent of consumers were approached in 2018 compared with 69 per cent in 2014. This is a measure of conduct in the retail market.

FIGURE 12: APPROACHES TO RESIDENTIAL CONSUMERS TO SWITCH RETAILERS



Source: Electricity Consumers' Survey 2016
(available at www.ea.govt.nz/about-us/what-we-do/whats-my-number/annual-review-of-the-whats-my-number-campaign)

RELIABILITY

The suite of statistics used to assess reliable electricity supply and summary of results to date are:[12]

7 Pricing in scarcity events reflects opportunity cost, as measured by case-by-case analysis – **the high prices in early 2020 and May 2020 were investigated as part of Quarterly Reviews and a market commentary publication. This initial analysis found prices reflected market fundamentals. Further in-depth investigation will be conducted in 2020/21.**

8 Effective management of dry years or emergency events, as measured by case-by-case analysis – **the beginning of 2020 with low storage in the North Island and constrained export north, plus the high prices in May 2020 have been discussed in Quarterly Reviews and a market commentary publication. Further in-depth analysis will be conducted in 2020/21.**

9 Capacity and energy margins are within efficient bounds, as measured by the annual security assessment – **capacity and energy margins are moving towards the bounds set by the Board.**

10 Investigation of reliability events does not identify systemic issues, as measured by case-by-case analysis – **The Rulings Panel issued penalty decisions on formal complaints in relation to the 2 March 2017 South Island restoration event and the 25 January 2018 outage in Hamilton. The Authority published a Quarterly Review discussing events which occurred in November 2019 and the learnings for reliability. The review did not identify any systemic issues.**

12 See the glossary for explanations of these statistics.

PRICING IN SCARCITY EVENTS (STATISTIC 7)

Fuel was scarce in the North Island during the first half of 2020, with inflows to Lake Taupō being in the bottom one per cent. Also, due to the scheduled HVDC in the first four months of 2020, more generation in the North Island was required, as the capacity to export from the South Island was reduced. There was also an unusually large amount of generation on outage after the COVID-19 lockdown, some of which is likely to have been delayed maintenance due to the HVDC outage and the subsequent lockdown.

The spot price responded in the way we expected it to in these scarce resources and to ensure ongoing supply. Scarce supply lead to more expensive generating plant in operation and higher prices.

EFFECTIVE MANAGEMENT OF DRY YEARS (STATISTIC 8)

Figure 13 shows the spot price and South Island storage as a percentage of mean storage. Prices during 2019 remained high until demand decreased at the end of December. Despite a large inflow event in November and December 2019, prices did not respond in the way we expected and a claim of a UTS was received. The Authority is continuing investigation into this claim.

There was low storage in the North Island at the beginning of 2020 combined with constrained export north due to a scheduled HVDC outage. This caused price separation with higher prices in the North Island and higher thermal generation

Prices were also high in May 2020 when North Island storage was low, many generators were on outage and demand increased post-lockdown.

FIGURE 13: EFFECTIVE MANAGEMENT OF DRY YEARS

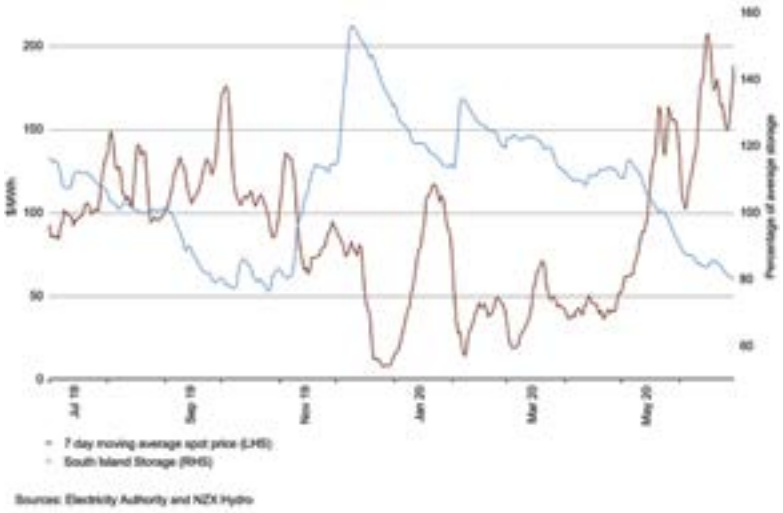
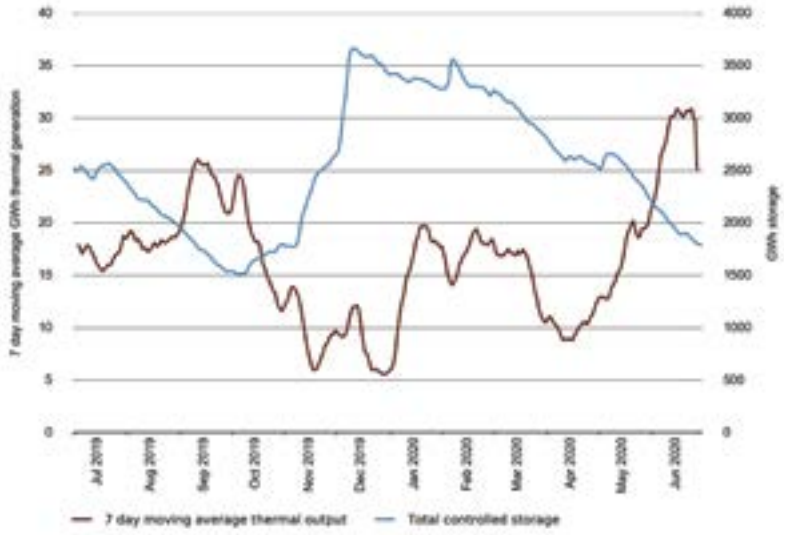


Figure 14 shows thermal generation and total New Zealand hydro storage. What is normally a strong inverse relationship was disrupted during early 2020 due to the scheduled HVDC outage and low storage in the North Island. This meant more thermal was needed to meet demand in the North Island.

FIGURE 14: THERMAL GENERATION AND STORAGE



CAPACITY AND ENERGY MARGINS (STATISTIC 9)

Statistic 9 relates to capacity and energy margins. These are assessed and reported annually by the system operator.[13] The latest security of supply annual assessment (2020) indicates capacity and energy margins are within the efficient bounds set by the Board.

INVESTIGATION OF RELIABILITY EVENTS (STATISTIC 10)

Statistic 10 relates to investigations of reliability events. On 2 March 2017 testing at Clyde caused the South Island to be separated into two electrical islands; automatic under frequency load shedding (AUFLS) to trip in the upper South Island; and interruptible load to trip in the North Island. On 3 June 2020, the Rulings Panel issued its penalty decision on formal complaints in relation to this event against Transpower New Zealand Limited, in its capacity as both system operator and grid owner. The Rulings Panel declared the system operator and grid owner breached a number of Code provisions that related to system security, grid emergency management and restoration.

The Rulings Panel also issued a penalty decision on 27 March 2020 against Transpower New Zealand Limited in its capacity as grid owner in relation to an outage at Hamilton on 25 January 2018.

The Authority published a Quarterly Review that discusses reliability events that occurred in November 2019. The review sets out lessons from these events that the Authority thinks may be of interest to participants and consumers.

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

EFFICIENCY

The suite of statistics used to assess electricity system and market efficiency and summary results to date are:[14]

11 Robust futures prices – **Our 2019/20 work programme delivered projects aimed at improving liquidity and more projects are scheduled in the 2020/21 work programme.**

12 Dry year prices reflect storage, as assessed by case-by-case analysis – **low North Island storage and a scheduled HVDC outage in early 2020 led to price separation as expected. Low North Island storage and generation outages led to high prices during May 2020. These two periods have been discussed in Quarterly Reviews and a market commentary report. Initial analysis suggests spot prices during these periods reflected the scarcity of supply.**

13 Exceptional prices are justified by underlying fundamentals, as assessed by case-by-case analysis – **an investigation into the claim of a UTS suggests that spot prices may not have reflected underlying fundamentals during December 2019. This investigation is still to be completed.**

14 Reducing constrained-on compensation – **constrained-on costs have been falling since 2011.**

15 Increased occurrence of demand bids setting spot prices – **not yet measured.**

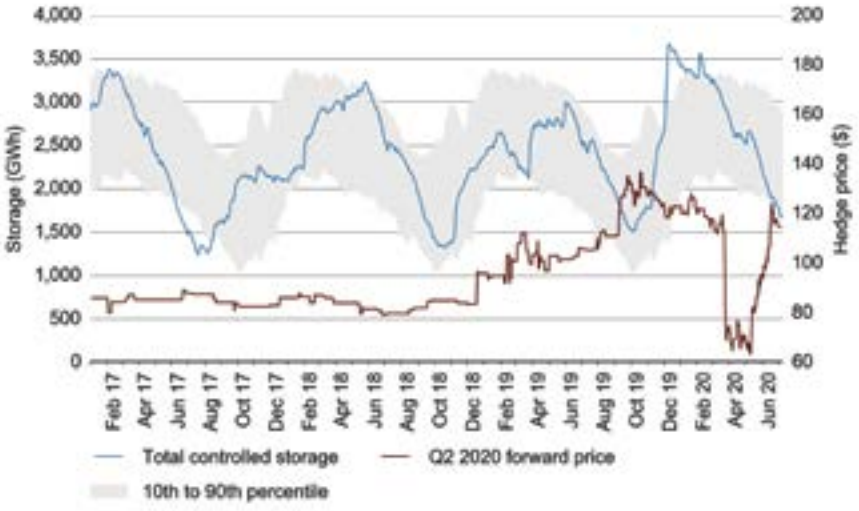
14 See the glossary for explanations of these statistics.

FUTURES PRICES (STATISTIC 11)

Figure 15 shows the hedge price (statistic 11) for the ASX June 2020 quarterly baseload hedge at Ōtāhuhu and total national hydro controlled storage. The chart demonstrates how the hedge price reflects market fundamentals.

The chart shows the 2020 Q2 hedge price decreased sharply once the COVID-19 lockdown measures were introduced in March 2020, with the anticipation of much lower demand. The hedge price did not respond to increased storage in late 2019, most likely due to the scheduled HVDC outage in early 2020 combined with low storage in the North Island. The review of winter 2017 and spring 2018 raised the issue of a lack of liquidity in the ASX forward market. Our 2019/20 work programme delivered a number of initiatives aimed at improving liquidity, with more on the work programme for 2020/21.

FIGURE 15: FUTURES PRICES



DRY YEAR PRICES REFLECT STORAGE (STATISTIC 12)

Low North Island inflows during 2020 combined with an HVDC outage from January to March and generation outages during May 2020, caused price separation and high prices as expected. These periods have been discussed in Quarterly Reviews and a market commentary report that was published. Further investigation will be carried out as part of a review of 2019/20.

EXCEPTIONAL PRICES (STATISTIC 13)

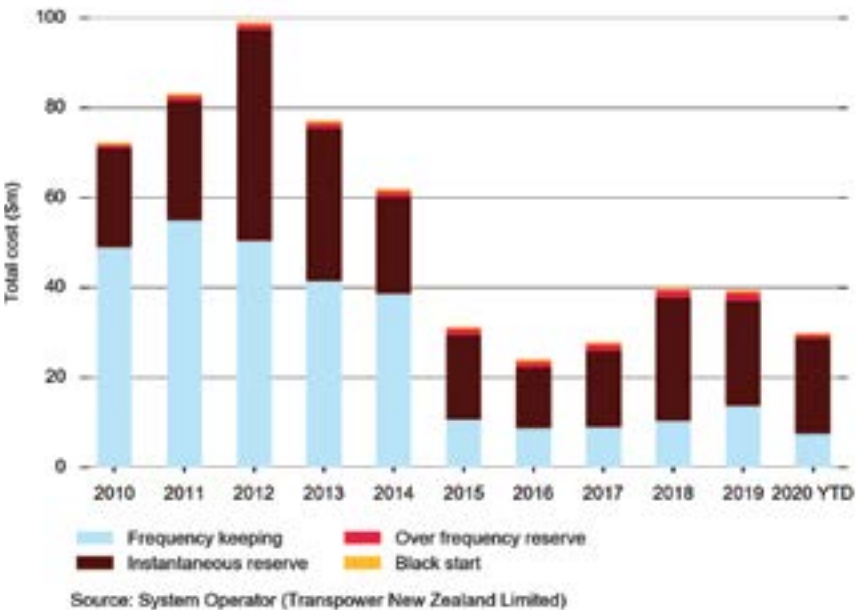
Prices remained high at the end of 2019 despite high inflows and spilling from South Island catchments. This period was the subject of an UTS claim. The Authority is still investigating this claim.

ANCILLARY SERVICES AND CONSTRAINED COSTS (STATISTIC 14)

Figure 16 shows the total ancillary services costs (statistic 14) for 2010 to 2019 calendar years and 2020 to June. It shows overall costs have fallen since 2012 with 2018 and 2019 being higher most likely due to high spot prices. 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. The Authority introduced new code changes in March 2020 that removed these payments for ramping generation.

FIGURE 16: ANCILLARY SERVICES AND CONSTRAINED COSTS



DEMAND BIDS SETTING SPOT PRICES (STATISTIC 15)

Statistic 15 is not yet measurable. Dispatchable demand can enable the demand side to influence and set the wholesale market price. The first participant in this new scheme started operating in November 2014 but to date this is the only participant.

APPENDIX B:

AUTHORITY MEMBERS, RULINGS PANEL, SECURITY AND RELIABILITY COUNCIL AND ADVISORY GROUPS

AUTHORITY MEMBERS

The Authority is made up of between five and seven members appointed by the Governor-General. Members hold office for a term of up to five years and may be reappointed.

Authority members are Dr Brent Layton (Chair) and Susan Paterson (reappointed for terms of five years, expiring 1 November 2020), Allan Dawson and Sandra Gamble (appointed for terms of five years, expiring 18 April 2022) and Mark Sandelin and Lana Stockman (appointed for terms of five years, expiring 6 June 2022).

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 are Mark Sandelin (Chair), Lana Stockman and Brent Layton.

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 are Allan Dawson (Chair), Sandra Gamble and Mark Sandelin.

The System Operations Committee oversees the performance monitoring of the system operator, identifies any emerging system security risks and addresses any other matters relating to the system operator's obligations under the Code. Members are Sandra Gamble (Chair), Allan Dawson and Brent Layton.

RULINGS PANEL

The 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.

The Governor-General appoints panel members.

Members are Mel Orange (Chair), Geraldine Baumann (Deputy Chair), Denis O'Rourke, Nicola Wills and Lee Wilson.

SECURITY AND RELIABILITY COUNCIL

The Act sets requirements to establish the Security and Reliability Council and other advisory groups.

The Act requires the Authority to publish a Charter on advisory groups. The charter was first published in February 2011 and most recently updated in January 2017.

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

The independent chairperson is Hon Heather Roy. The members are Barbara Elliston, Vince Hawksworth, Tracey Hickman, Greg Skelton, Nathan Strong, and Guy Waipara. Nanette Moreau and Gretta Stephens were appointed for a three year term in May 2020 (completing 31 March 2023). Anne Herrington and Bruce Turner completed the duration of their term on 31 March 2020.

ADVISORY GROUPS

The IPAG and the MDAG are tasked with providing advice and recommendations to the Authority on the development of the Code and market facilitation measures.

The IPAG focusses on issues specifically related to new technologies and business models and consumer participation. Members of the IPAG are John Hancock (Chair), Luke Blincoe, Glenn Coates, Allan Miller, Terry Paddy, Tim Rudkin, Roxanne Salton, Corrie Stobie, Diego Villalobos Alberú and Scott Willis. The terms of Glenn Coates, Terry Paddy and Roxanne Shilton were extended by three months due to IPAG being put on hold while the Authority focused resources on acute COVID-19 related issues.[15]

The MDAG focusses on further evolving the 'machinery' of the electricity market. Members of the MDAG are Tony Baldwin (Chair), Paul Baker, James Flannery, James Flexman, Stu Innes, Andrew Kerr, Rebecca Osborne, Ann Whitfield and Al Yates.[16]

ADDITIONAL ADVISORY AND TECHNICAL GROUPS

The Authority has established a number of other advisory and technical groups.

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 past and current members of the SRC and advisory groups for their valuable input over the years.

15 The terms for Glenn Coates, Terry Paddy and Roxanne Salton were extended by three months; their terms now end on 30 December 2020. Rosalind Archer and Stephen Peterson resigned from their positions in December 2019.

16 The terms for James Flannery, James Flexman and Rebecca Osborne end on 30 September 2020. The terms of Darran Gilchrist, Bruce Rodgers and Matt Rowe ended on 30 September 2019.

APPENDIX C:
ADDITIONAL REPORTING

To ensure compliance with the CEA, there is a requirement for the *2019/20 Annual Report* to include performance information for the 'Maintain Compliance' strategy, which was removed from the Authority's strategic framework via the *2019/20 SPE*.[17] This information is included below:

STRATEGY 5. IMPROVE COMPLIANCE

IMPACT MEASURES	STATUS	RESULT
a. Downward trend in frequency of non-compliance (same type of event, same participant).	○ ○ ●	**On track.** The trend in frequency of non-compliance, as indicated by compliance monitoring and breach investigations, is a continuing small reduction.
b. Downward trend in the number of serious breaches.	○ ○ ●	**On track.** We do not consider that a trend in the number of serious breaches has emerged, due to the small number of serious breaches, which includes some one-off breaches and excludes breaches still under investigation.
c. Increased awareness of the Act, regulations and Code among participants.	○ ○ ●	**On track.** Participant awareness of the Act, regulations and Code has increased, as indicated by targeted participant visits.*

Notes:

* Previously, awareness levels were assessed using an annual survey. The survey has been replaced by targeted participant visits, providing registry training courses and maintaining guidelines and the education portal. Overall awareness levels are considered good, however longer-term monitoring will be required before clear trends can be established.

17 According to s.151(2) of the CEA, the Annual Report must provide "…an assessment of the entity's progress in relation to its strategic intentions as set out in the most recent statement of intent". Since the 2018/19 SPE did not remove the 'Maintain compliance' strategy from the SOI, the Authority is technically still required to report on the impact measures associated with this strategy in the Annual Report.

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.
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.
DR	Disaster Recovery.
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).
EPR	Electricity Pricing Review.
Extended reserve	Extended reserve is the last resort mechanism to restore frequency when the normal reserve product mechanisms for managing falls in frequency are insufficient. To prevent a drop in frequency that could cause the catastrophic failure of the power system, the extended reserve system automatically disconnects large blocks of load using automatic under frequency load shedding (AUFLS) relays that are progressively triggered to arrest the fall in frequency.
ETI	Exchange traded instrument.
Frequency keeping/ management	The frequency of the New Zealand grid is normally maintained at 50 Hertz, which is the number of cycles per second. Frequency keeping refers to the process used to keep the frequency of the grid within its normal band. Frequency keeping power stations are used to increase or decrease generation within a set band to ensure that supply equals demand on a second-by-second basis. The system operator purchases frequency management services to maintain frequency within the prescribed tolerances.
FTR	Financial transmission right.

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. For example, a common hedge contract is a contract for differences (CFD). CFD set a price at which a buyer will purchase a specific quantity of electricity at a specified node for a set period. The buyer of the CFD pays this price regardless of whether the spot market price is higher or lower than the set price.
HHI	Herfindahl-Hirschman Index (HHI). HHI is a measure of market concentration and the relationship with competition occurs because less concentrated markets are likely to be more competitive. It is calculated as the sum of the squares of the market share of all participants.
Instantaneous reserves	Generation capacity and interruptible load that is made available to be used in the event of a sudden failure of a 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.
MDAG	Market Development Advisory Group.
MOSPs	Market Operation Service Providers.
Outcome, impact and output	Accountability terms used in the State 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. Outcomes are assessed over the long-term. ■ 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. These changes can usually only be assessed over the medium- to long-term. ■ Output: the goods or services that we supply. We have called these 'our functions' in this annual report. These are measured and reported on annually.
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.
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.
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).
Service providers	We contract third parties to manage the electricity system (system operator) and market services, as described in Part 3 of the Code.

SOI	*Statement of Intent.* Prepared in accordance with the CEA.
SPE	*Statement of Performance Expectations.* Prepared in accordance with the CEA.
SRC	Security and Reliability Council.
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.
vSPD	Vectorised Scheduling, Pricing and Dispatch. A mathematical replica of Scheduling, Pricing and Dispatch mode used by Transpower to run the wholesale market.