

Connecting communities

Annual Delivery Report 2022



Ngā Ihirangi

Contents

Message from our Chair 3

Highlights 5

- Our Business Capability Framework gets the tick
- Construction starts on our biggest project ever
- Gathering momentum
- Supporting regional growth
- Keeping customers at the heart of everything we do
- Engaging with our communities
- The network of tomorrow
- Engaging with our industry

Our year at a glance 11

Behind the numbers 12

- Investing in the network
- Reliability of supply
- Managing vegetation
- Renewing and replacing our assets
- Maintaining our assets
- Improving performance

The numbers 15

- Financial summary
- Major projects
- Asset renewal
- Unit rate
- Defects
- Inspections
- Vegetation management
- Enterprise resource planning
- Staff
- Network performance
- Feeder performance
- ICP outages, distribution transformer performance
- Complaints

He mihi nā te tiamana

Message from our Chair

E ngā reo, e ngā mana, e ngā kārangaranga maha, tēnā koutou katoa.

Greetings to you, all our precious, distinguished and extraordinary customers.

Looking back on year four of our Customised Price-quality Path (CPP) programme (1 April 2021 – 31 March 2022), it has been a year of achievements amid some challenges.

Our five year, \$1.3b CPP journey started in April 2018 with the goals of ensuring a safe, reliable and resilient network, supporting growth in our communities and evolving our network for the future.

Over the past year we have continued to make good progress, while responding to the challenges affecting our customers, our business, our industry, Aotearoa New Zealand and beyond.

Another big year

In October, we welcomed James Kilty as our new Chief Executive. James is firmly focused on ensuring our customers are at the heart of our business, and enabling your future energy choices as Aotearoa continues on the journey to decarbonise.

Working with the Powerco whānau, James has clarified our purpose – we connect communities. He is building strong foundations to deliver our purpose and strategy through Ngā Tikanga, the cultural framework that defines what we value and how we behave; with each other, with our communities, and with our industry stakeholders.

Further supporting this, we achieved ISO55001 conditional certification in CPP Year Four – confirmation that the way we manage our assets is world-standard. Certification means you can be confident that our strategic, tactical and operational decisions are aligned and supported by best practice.

This alignment in our purpose, behaviours and approach ensures we work smarter and more collaboratively, keeping you at the centre of our decision making as we deliver the final year of our CPP programme.

We successfully completed one of our major projects in CPP Year Four - our Putāruru to Tirau underground cable, and Putāruru and Lake Road substation upgrades. These ensure capacity for future growth and electricity security for Putāruru, Tirau and Matamata by providing alternative power supply routes in the event of a failure.

We also delivered a number of initiatives to increase the efficiency of our processes, which are integral in improving how we work with each other and our field crews.

Making good progress

At the start of 2022 we broke ground on the South Waikato National Grid Connection – the largest of our CPP projects. Starting construction is a major milestone, following years of planning, industry consultation and community engagement.

Our new Ōhakea substation was completed in March 2021 as part of our Feilding through to Bulls substation and sub transmission works. With sewer, road and water works all taking place on the busy stretch of highway between Ōhakea and Bulls, we are working closely with the community and the other companies involved to install the Ōhakea to Bulls cable with minimum disruption. We anticipate some delays to our Bulls substation work because of skills shortages.

Significant upgrade work continued across our Palmerston North, Greytown, Inglewood and Whanganui communities, to name a few.

We also continued to survey our network from the sky with our pole-top photography programme. Over the past year, we surveyed 46,780 poles – about one-fifth of our network – using cameras mounted on helicopters. We have now surveyed three-fifths of our network in this way, improving our visibility to better manage our vegetation and

defect management programmes. We identified 204 high-risk defects with crossarm equipment which may otherwise have been missed during a ground inspection. Those issues have now been repaired.

Our low voltage network monitoring project is almost complete with 302 units installed on transformers across Taranaki, Manawatū and Tauranga. The units give us real-time load data. That means we can identify and rebalance overloaded circuits, so they don't trip and cause outages, and see peak loads so our planning team know where more capacity is needed. There are 20 more units to be installed in Tauranga before work in these regions is completed.

Delivering in a different way

With our customers at the forefront of our decision making, we have re-evaluated some projects, where we now think there are better and more cost-effective solutions than what were originally proposed at the start of our CPP journey. In Coromandel, we have engaged with our industry to explore cost-effective, sustainable, non-network solutions to meet growing demand there, rather than the traditional overhead poles and lines initially planned.

Elsewhere, in Whenuakite near Whitianga, we are assessing alternative options. Initially we proposed a new substation and overhead line, however rising costs have given us cause to investigate more cost-effective options that can still deliver reliable supply for our customers there.

We have also challenged our ways of working.

The increased pace and scale of work on our network and the drive to capture more detailed information about our assets has stretched our existing processes and created a backlog of asset information for our team.

As a result, we have established a team to implement improvements, from standardising the way we design new assets, to working with our service providers to update our systems throughout the project lifecycle. We will continue implementing these improvements in CPP Year Five, creating efficiencies that improve how we deliver to you.

Responding to challenges

The COVID lockdown in August 2021 and the arrival of Omicron on our shores impacted the delivery of our programme. As part of the team of five million, we deferred some planned work, changed our approach where we could, and supported members of our whānau directly affected by the outbreak. I would like to record our appreciation to our staff for their professionalism during the continuing pandemic. People worked in isolation and fragmented teams for extended periods as we sought to manage the potentially catastrophic risks associated with supplying an essential service. The health and safety of our teams, our contractors and our customers remains a top priority.

Like many businesses, we are seeing the effects of the pandemic in the form of rising costs, supply chain delays and skills shortages, which are impacting our ability to deliver work in the field at the usual pace.

Additionally, we are seeing strong growth in customer requests to connect to the network.

We are connecting more distributed generation (such as solar) year-on-year as customers switch to alternative energy solutions. We received 1,672 applications during CPP Year Four, a 58% increase on the year prior, and we expect the upward trend to continue.

Growth in the communities we serve is driving demand for customer connection projects, such as new commercial and industrial sites, subdivisions, and new builds. We saw a record 14,718 new connection applications in CPP Year Four, up 7% on the year before. Additionally, the cost to carry out those connections was up 26.6% on the previous year, indicating that connections were larger and more complex.

Our planning teams work hard to anticipate customer preferences and regional growth to ensure our network is ready to supply power at the right time, in the right place, so we are ready to connect customers when they are.

All of these factors impact planning and delivery and have required us to respond quickly, while continuing to drive our CPP programme of work.

Future focus

We are very confident that our CPP application and programme of work was the right decision to lift the reliability and resilience of our network to meet our customers' needs and expectations.

It is now abundantly clear that the demands and reliance on electricity networks will continue to increase. Electrification has a major role to play in Aotearoa's journey to a low carbon energy system. Increased investment in the transmission and distribution systems will be needed to meet the capacity, resilience and sophistication of a future electricity system. There will be massive changes to our society and economy from decarbonisation and the extent of these are only beginning to be appreciated. We need to be ahead of those challenges and to be an enabler rather than an impediment. The reality of the outcomes is binary, and our commitment to success for our customers is absolute.

Our CPP investment programme therefore is just the beginning of our response to the challenge of the future electricity system, forming part of our larger sustainability ambitions.

Our sustainability strategy focuses on ensuring the network is resilient to climate change, able to meet growing demand and is ready to connect distributed generation. Additionally, it seeks to reduce the impact of our own emissions, keep people safe around our networks and worksites, encourages a diverse and inclusive workplace, and looks to develop authentic, lasting relationships with our communities and stakeholders, including tangata whenua.

We will continue to work alongside our regulators, policy makers and industry stakeholders as part of the industry-wide, collaborative approach required to meet the challenges – and opportunities – that delivering a sustainable energy future for the people of Aotearoa presents.

Our final CPP year

We are now in the final year of our CPP programme, and there is still a lot to do to deliver our commitments.

We are seeing the benefit of the initiatives we have put in place to work smarter. Our focus now is on leveraging that momentum to deliver the remainder of our major and minor projects. We are working closely with our field crews and suppliers to build solutions that will provide our customers with reliable power and enable their future energy choices.

Finally, let me extend my thanks to the people behind the past year's results. I am proud of the dedicated mahi from our teams and crews who work together to deliver for our customers each and every day.



Noho mai i roto i ngā manaakitanga me ngā whakaaro pai.

May you remain in good health and high spirits.

John Loughlin, Chair

Ngā haumāuiui

Highlights

Key achievements for the year

Our CPP programme encompasses all parts of our business.

From building new parts of our network and improving how we monitor, maintain and improve our existing network, through to working more efficiently using systems and processes, engaging with our customers – and everything in between.

We're proud of all the work we do, and here are some of the highlights of what we achieved during CPP Year Four.

Our Business Capability Framework gets the tick

In December 2021, we engaged a company called AMCL to undertake an audit of our compliance with ISO55001, and were granted provisional certification.

The Swiss-based International Organisation for Standardisation (ISO) sets internationally recognised standards for technology and manufacturing. Its ISO55001 standard sets the benchmark for asset management systems.

Achieving ISO55001 is a key part of our CPP programme. Certification ensures that the way we manage the vast array of electricity assets that make up our 28,000km network is world class.

To achieve accreditation, we developed a comprehensive Business Capability Framework to show how our functions and teams work together as an integrated whole to manage our assets – from strategy and planning to our organisational structure and competencies, how we manage our data, how we deliver our projects and maintenance, through to how we communicate with our customers.

Our provisional certification was subject to us making some improvements to our document management processes. That work is now complete, and we gained full accreditation in May 2022.

[Find out more >](#)



Construction starts on our biggest project ever

Ten years in the planning, construction of the South Waikato National Grid Connection started in January 2022.

The \$43m connection between Transpower's Arapuni substation and our Powerco substation just outside Putāruru will deliver reliable electricity to connect growing communities in South Waikato well into the future.

It also supports their changing use of electricity – as people increasingly switch to EVs, for example.

South Waikato District Mayor Jenny Shattock says she's excited to see construction start.

"As our district continues to grow the new line will help to ensure that there are fewer outages and the surety of supply will have a positive impact on the economy of our region. I am thrilled that this project has finally come to fruition."

Along with council, we invited iwi and residents – the people who know and love the area – to provide input as part of the design process. We took their feedback into account when refining our design and without doubt, their feedback improved what we're delivering.

Those improvements are both big – like diverting a stretch of the overhead section across farmland rather than building in road reserve along the windy Pearsons Road (made possible thanks to landowners who granted easements on their land).

And small – like moving a pole a few metres to the left or right to reduce visual impact for a home owner.

The finalised design is a cost-effective mix of overhead lines and underground cable and while construction is progressing well, there's still a lot of mahi ahead to complete the project by the end of CPP Year Five in March 2023.

[Find out more >](#)



Putāruru Substation upgrade, Putāruru, South Waikato



Planting day, Duxfield Reserve, South Waikato

Gathering momentum

From Coromandel to Wairarapa, our network projects continued to gain momentum during CPP Year Four.

Whether we're building new substations, installing lines or cables, or replacing ageing equipment, we've been working hard to deliver the electricity assets that will keep growing communities connected.

Here's a look at some of that progress.

At the beginning of our CPP journey we proposed building new overhead lines to support peak demand times in the Coromandel – like the summer holiday period when an influx of visitors to the region puts pressure on existing capacity.

During 2021, we began exploring more cost-effective alternatives to traditional poles and wires, such as whether modern diesel generators could be used to provide back-up supply during peak times.

As part of that exploration, we sought interest from the industry on potential solutions. We're now evaluating delivering a combined solution of modern diesel generation paired with a non-network solution.

In Whanganui, detailed design of our Peat Street substation expansion and new underground cable to Taupo Quay progressed well. We also started purchasing the cable, switchgear and other materials we'll need for the project, and engaged in discussions with potential contractors to build it.

Delivery of our \$15m investment across a range of interlinked projects between Feilding and Marton is also well underway. During CPP Year Four we upgraded our Sanson substation, and thermally upgraded a section of the existing line between Marton and Bulls. From March 2022, installation of cable to link the Bulls substation to the recently completed Ōhakea substation began.

Going along a busy stretch of State Highway 3, we're completing this work in stages to minimise disruption. While this progress is pleasing, it's likely the start of work on the new switch room at the Bulls substation will be delayed due to labour shortages affecting our contractors' ability to commence work.

Our \$27.4m investment programme in Palmerston North is now in its final stages. The upgrade at the Linton substation and the commissioning of a second transformer at our new Ferguson St substation are now complete, along with the installation of new 9km twin circuit underground cables connecting the two.

Some cable is yet to be installed before temporary overhead lines between the Keith and Main Street substations will be taken down. Once complete, these assets will provide extra capacity and security of supply for the second-largest CBD we serve.

[Find out more >](#)

Supporting regional growth

It's been pleasing to see projects completed earlier in our CPP programme paying dividends for their communities.

Our Pyes Pa substation in Tauranga, completed in 2018, had enough capacity available to support Fletcher Group's new \$500m GIB manufacturing plant, a key factor in Fletcher's decision to site their facility in the region.

Construction commenced in January 2021 and the factory, which is expected to create 95 permanent jobs, is due to be fully commissioned in 2023.

Programme lead Stewart Vaughan says the collaborative approach has been very successful.

"It has been a pleasure working with the Powerco team to-date and we look forward to their ongoing support of this exciting project and our shift of operations to Tauranga."

Similarly, the new substation at Ōhakea completed in 2021 is now ready to support the extra capacity required as part of the New Zealand Defence Force's \$2.34b airbase upgrade, which includes flight simulators, an operations centre, hangar, warehousing and maintenance facilities. The substation will also connect, via a new underground cable, to Bulls and provide security of supply for the Rangitikei and Manawatū regions.

Most recently, the newly completed Putāruru to Tirau underground cable and Lake Road and Putāruru substation upgrades are now providing additional capacity and security of supply to the South Waikato townships of Putāruru, Tirau and Matamata, supporting those communities as they continue to grow.



Ferguson Street Substation, Palmerston North, Manawatū

Keeping customers at the heart of everything we do

We're always aiming to improve how we serve you, from providing timely information about outages (whether planned or unplanned), to helping you use power more efficiently.

During CPP Year Four, we delivered a number of projects and initiatives with that in mind.

In October 2021, we launched our new website to provide more accessible information around outages, our projects, safety and how to connect to our network.

In CPP Year Four we also expanded the use of our Customer Relationship Management tool – Salesforce Service Console – to centralise the management of our stakeholder contact details and interactions, greatly enhancing our ability to engage directly with our customers and better manage enquiries and any complaints.

When our \$2m electricity upgrade in Greytown meant there would be 14 planned outages affecting residents and businesses over the summer of 2021-22, we launched an awareness campaign and supplied temporary generators for CBD businesses and essential services to help minimise the disruption that we know planned outages cause.

We also stood up a Community Hub in the town centre during the six largest outages. The Hub provided wifi, hot water and complimentary refreshments for residents who were without power for the day, and was staffed by members of our Customer Team.

Here's what some of our customers had to say about the Hub:

"I am so pleased you have this set up – such a great idea!"

"I read about it on the website. I am using it today and my husband is using it tomorrow. It's a lifesaver."

"You're doing the right thing. The community appreciates it."

Energy costs are rising, and that's why we partnered with the Electricity Retailers' Association to help deliver EnergyMate in 2021. EnergyMate provides free coaching for people facing energy hardship. EnergyMate's in-home visits help vulnerable customers make the most of their power usage through simple steps like ensuring they're on the power plan that best suits their needs, switching to LED lightbulbs (provided for free) and providing advice on using appliances efficiently.

We're pleased to say the programme won the Outcomes Award at the Energy Excellence Awards in June 2022.

There's always room to improve the way we engage with our customers and we continue to work hard to provide timely, accurate and accessible information to you.



\$2m upgrade, Greytown, Wairarapa



Community Hub, Greytown, Wairarapa

Engaging with our communities

We love getting involved with the communities we serve and while our community partnerships were impacted by COVID, with a number of the community events we support postponed or cancelled, we were still able to continue with a small number of programmes during CPP Year Four.

We donated 300 laptops to low decile primary schools across our network footprint for tamariki to use for their digital learning. The laptops were refurbished and cleaned ready to use by our Information Services Team, following a technology upgrade.

School Principal Trish Scown says the 30 laptops donated to Putāruru Primary School means there are now enough laptops for everyone in the school's new Year 5/6 class.

"We were thrilled to receive the new laptops. These laptops mean that every child in the class has the use of one whenever they need it."

We also extended our Replant for Tomorrow tree planting initiative.

Replant helps redress the vegetation we remove from in and around overhead lines each year by supporting local tree planting and biodiversity restoration efforts. In Coromandel, we teamed up with Trees for Survival, an environmental education programme that supports schools across the region to grow and plant native trees.

We also had fun on the water where our communities love to play by supporting initiatives such as Surfing for Farmers, to foster good mental health in our rural communities, as well as water safety and surf lifesaving training.

[Find out more >](#)



The network of tomorrow

The first phase of our three-year electric vehicle (EV) charging project was completed, with 80 EV smart chargers installed in participants' homes.

We're interested in finding out how much electricity load we'll need in the future to support customers' switch to EVs.

In the initial phase of the project we asked our participants to charge their vehicles as they normally would, and data patterns showed that – unsurprisingly – most people plugged their cars in to charge when they arrived home in the evening. That coincides with 'peak demand', the time when electricity is most in demand in the evening as people arrive home to cook, heat and light their homes.

Since February 2022, we've been using the smart charger technology to control when plugged-in cars will charge – in the small hours of the morning for instance, when demand for electricity is much lower. This 'managed charging' phase will help us understand how we can smooth the peaks and ensure that there's enough electricity for everyone when they need it.

This work helps our team anticipate how much capacity we'll need in the future to support the increased switch to EVs as Aotearoa decarbonises.

Our Network Transformation Team also continued to work on the technology that will make our networks much smarter in the future.

We've been installing Long Range Wide Area Network (LoRaWAN) technology across our network, with 38 gateways installed and connected. Once complete, the technology will relay real-time information via smart-sensors placed on electricity equipment (like poles, lines and transformers) back to our Network Operations Team in Taranaki.

The sensors will provide fault, load performance and metering information so, in turn, the team can more easily detect and pinpoint the location of outages, identify underperforming equipment and monitor power demand. It will also reduce the need to send field crews to remote locations to conduct routine checks on equipment. By leveraging the 'Internet of Things' in this way we'll have much greater visibility of what's happening, and be able to provide a more reliable and efficient network.

[Find out more >](#)

Engaging with our industry

As the second-largest electricity lines company in Aotearoa it's important we play our part in both sharing and fostering knowledge and insights within the electricity sector.

We work with other lines companies and industry associations like the Electricity Network Association (ENA) and the Electricity Engineers' Association (EEA), as well as universities and start-ups, to address challenges, collaborate on opportunities, and explore innovative solutions that benefit our customers.

Since 2020, we have been supporting a prototype of wireless electricity transmission technology, developed by local start-up Emrod. In 2021, we were joined by Ara Ake in providing funding for the venture. Able to transmit power from sending to receiving panels without the need for wires, the technology may one day solve real-life challenges, such as how to distribute power more efficiently to remote customers or over very challenging terrain.

While any practical application would likely be several years away, and is dependent on being able to transmit enough power safely and economically, funding trials like this supports new solutions that have potential to be real game changers.

We also continued our involvement with industry working groups.

Members of our team are part of several EEA working groups; the Asset Management Group, the Safety Standards and Procedures Group, the Professional Development Group and the Public Safety Working Group to name a few.

During the year, the team worked with their industry counterparts to standardise field work, like how the sector assesses the condition of overhead lines and wooden poles, and safety procedures for re-living lines after fault or maintenance work. Having a consistent industry-wide approach to the way we work improves safety across Aotearoa, which benefits everyone.

To encourage the next generation of line mechanics and electrical technicians, our EEA representatives have also been working with skills and training organisations Waihanga Ara Rau and Te Pūkenga to improve educational quality and pathways into the sector.

We participate in several ENA initiatives. In particular, this year the ENA Quality of Supply Working Group looked at how we can make improvements to the way we measure quality of supply, in a manner that is more meaningful to our customers.

Currently quality of supply is largely measured by SAIDI and SAIFI – the average duration (SAIDI) and frequency (SAIFI) of outages a customer experiences over a year. The Working Group has been exploring other measures that could help understand whether we're improving things for our customers; like the time it takes to process a customer's request to connect to a network, or customer service measures so we know how satisfied our customers are. Our GM Strategy and Engineering Ryno Verster has been Chair of the Working Group for a number of years and will continue to support this work.

Similarly, in line with our customer-focused approach, we began meeting quarterly with Utilities Disputes, the free and independent service customers can use to resolve complaints with utilities companies like us. We use these sessions to discuss trends or common areas of improvement, all of which helps create better outcomes for our customers.

Ngā hua matua o te tau

Our year at a glance

We get on with improving our network so you can get on with your day.

Poles

4,475 poles replaced or reinforced, a decrease of 9.3% on the year before.

∨ 9.3%

Overhead lines

208km of overhead lines replaced, a decrease of 8.8% on the year before.

∨ 8.8%

Vegetation management

16,210 tree sites managed, 12% more than the year before.

∧ 12%

Renewals and growth investment

\$634m invested in network renewal and growth over the past four years.

\$634m

Keeping the lights on

We kept the electricity on 99.95% of the time.

99.95%

Kōrero hōmiromiro

Behind the numbers

We use a number of metrics and targets to measure our progress towards delivering our CPP Programme. It helps keep us on track and gives you assurance that we're delivering on our promise. In the next section of this report, you'll find the quantitative data for CPP Year Four.

Here's some of the mahi behind those numbers.

Investing in the network

Our programme of major and minor investment projects is designed to support the growing communities we serve, by expanding our network to meet increasing demand for electricity.

Those projects have been gathering momentum during our CPP journey.

That momentum saw spend on our minor projects increase over CPP Year Four. The \$6.6m under-spend against forecast in FY21 reversed in FY22, as more projects progressed from the planning and design phases into construction.

Minor project spend \$000	Actual	Forecast
FY21	6,711	13,317
FY22	14,480	7,004

Construction of our major projects in Manawatū and Rangitikei, South Waikato, Omokoroa and Inglewood also progressed well, while projects in the Thames and Coromandel regions have been impacted by factors including rising costs, consenting and easement challenges, as well as geotechnical issues. This either delayed the start of construction, or prompted us to re-evaluate our options to ensure we're still delivering cost-effective solutions for our customers.

That means that while we didn't spend as much on building assets as we'd forecast for the year – with \$27.1m spent on major projects against a forecast of \$37.4m – we expect to see that spend increase in CPP Year Five as we start construction on those remaining projects.

You'll find commentary on each of our major projects in the numbers section of this report.

Reliability of supply

We use two metrics to measure how reliable your power supply is.

SAIDI and SAIFI measure the average duration (SAIDI) and frequency (SAIFI) of outages a customer experiences during a year.

We measure both planned and unplanned SAIDI and SAIFI; outages where we turn the power off so we can conduct maintenance safely, and outages when something unexpected happens on the network.

In CPP Year Four, we came under our unplanned SAIFI target, but went over our SAIDI target.

That tells us that while customers experienced outages less frequently, when there was an outage it took, on average, longer to be reconnected.

This result is due to a number of factors.

Over the year, numerous weather events caused disruption for customers. Stormy weather in July and September 2021, and then in February 2022 – you may remember Cyclone Dovi – blew through Aotearoa and caused widespread outages due to downed lines, broken poles and trees or other debris blowing into lines. We saw 27 storm days over the year, including three 'major event days', compared to 21 storm days the previous year.

Vegetation also caused a lot of outages (see next section). These types of outages can take more time to repair, with trees needing to be cut and then cleared before reconnection work can be carried out. We saw more outages happening on customers' service lines (the line that connects your property to our network), reinforcing the importance of property owners keeping trees away from lines. We run a tree trimming campaign every year so our customers are aware of the importance of keeping trees clear of lines.

COVID and skills shortages also played a role in the availability of crews to respond to non-emergency outages.

We're disappointed to have gone over our unplanned outage target.

That's why we have a team working on ways to reduce our unplanned SAIDI for CPP Year Five. They're looking at things like areas of the network where there are repeated outages so we can find the core cause (whether vegetation, a problem with equipment, or something else), and get it fixed. We'll also be working closely with our contractors to ensure we respond to unplanned outages as quickly as we can.

Conversely, we came under our planned SAIDI and SAIFI targets for the year. We achieved this by keeping a close eye on the maintenance our crews scheduled, and by working efficiently – such as combining planned work so that we can get as much as possible done during each planned outage.

Whether planned or unplanned, we'll continue working hard to ensure you experience fewer outages.

[Find out more >](#)

Planned	Limit	Actual
SAIDI	98.192	95.740
SAIFI	0.414	0.399

Unplanned	Limit	Actual
SAIDI	179.688	201.078
SAIFI	2.216	2.025

SAIDI = Average minutes without power.
SAIFI = Average number of outages.

Managing vegetation

Managing vegetation plays a big part in keeping our network safe and reliable. Trees cause around 25% of our total annual unplanned SAIDI allocation, so we work hard to keep them away from our overhead lines and other equipment.

The data we have gathered from LiDAR (Light Detection and Ranging) surveys and our tree trimming programme tells us that we have a bigger challenge to work through than we had forecast. We have responded by ramping up the numbers, and from 1 April 2021 – 31 March 2022 we managed 16,210 tree sites, almost 7,000 more than initially planned (See Figure 1).

To achieve that, we used a combination of eco-mulching, heli-spraying and shelter trimming to complement our more traditional tree trimming approach.

These methods were more efficient and less labour-intensive, and the results speak for themselves.

[Find out more >](#)

Renewing and replacing our assets

Connecting customers from the top of the Coromandel to Cape Palliser in Wairarapa is not a job we take lightly.

With 28,400km of electricity network, some of which traverses Aotearoa's most remote and challenging terrain, renewing poles, lines and other equipment plays an important part in ensuring the power stays on.

Much of the network was built in the 1950s and 60s, which means a lot of that equipment is now reaching the end-of-life it was originally designed for. That's why asset renewals are a big focus of our CPP programme.

During CPP Year Four, we replaced 4,475 poles and 208km of conductor, we also replaced 394 transformers and three sets of zone substation switchgear (See Figure 2).

Whether we're replacing assets in urban, coastal, alpine, forested or rural areas, we ensure the assets we install are suited to their conditions. For instance, we use composite poles in coastal areas where corrosion is a factor, wooden poles in rural areas where they're best-suited to withstand falling snow and trees, and pre-stressed concrete in urban and roadside areas to minimise harm in the event of a vehicle collision.

These upgrades require planned outages so work can be carried out safely, and we know that's inconvenient for our customers. However, the new equipment helps ensure there are fewer unplanned outages – and we call that a win.

A big 'thank you' to our customers for their patience while we carried out this essential renewal work.

Maintaining our assets

This year we completed 97% of the maintenance we had planned to carry out for CPP Year Four, and 18,000 more inspections than the year before – a great result considering the challenges posed by COVID.

Over the year, we spent time fostering a standardised approach to the way our field crews conduct routine maintenance on equipment like Ring Main Units (part of the equipment within the green Powerco boxes you may see along your street), and overhead line inspections.

Whereas previously crews were using our lengthy standards and procedures documents, we translated them into step-by-step maintenance guides, making the information more accessible and easier to follow when out in the field. We also facilitated training sessions with the teams.

We also checked in with our contractors more frequently to ensure that maintenance was being carried out to schedule and to troubleshoot any issues.

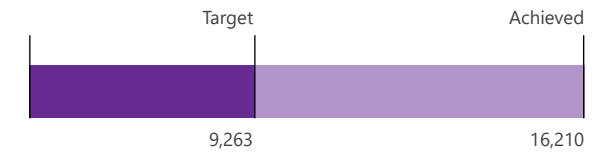
At the start of the year we had 32,188 asset defects to address across our network, identified through things like site visits and our pole-top photography project. Our field crews reported another 23,444 during the course of their work (See Figure 3).

We addressed 19,870 of those, and our team also found a number of defects that had either been reported multiple times in our system or had already been resolved. We cleansed those duplicates, giving us a true picture of the number of issues needing to be addressed.

That process prompted us to engage with our field crews to ensure defects are recorded in our field tool correctly so we can be confident that we're capturing right information first time, and no longer recording duplicates of known issues.

Tree sites managed

Figure 1



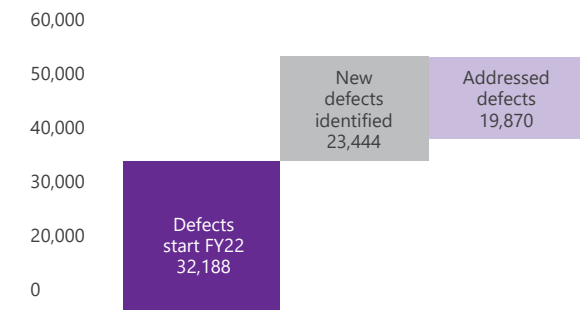
Assets replaced

Figure 2

Poles	4,475
Conductor km	208
Transformers	394
Substation switchgear	3

Number of defects

Figure 3



Improving performance

Our network is made up of over 1,000 sections (or 'feeders') connecting our customers to our substations.

We monitor and rank the performance of all feeders and identify our most outage-prone areas. This helps us prioritise where to focus on improving reliability for our customers.

Unsurprisingly, our worst-performing feeders are largely located in rural areas where long distances of overhead line cross difficult terrain.

There are usually a range of things causing outages on long rural feeders, including encroaching vegetation, ageing equipment, lightning and bird strikes.

Improving the performance of a feeder therefore requires a variety of solutions (see our vegetation, renewal and maintenance sections).

To mitigate outages when they do occur, in CPP Year Four we started installing Line Fault Indicators to help field crews quickly identify exactly where an outage has occurred along what can sometimes be hundreds of kilometres of line.

Just prior to the start of CPP Year Four, we identified the five worst-performing feeders in each region we serve – 30 in total.

Over the year, the improvements made saw 21 of those feeders drop out of our top 50 worst-performing feeders list.

Tackling multiple issues does take time, and we still have some of those feeders in our sights in areas including Hunterville, Kumenga, Pohangina and Waitōtara.

Every outage means there are customers without power, so we'll continue working hard to improve the performance of the least reliable areas of our network.

[Find out more >](#)

For information about what we delivered in the fourth year of our CPP visit powerco.co.nz



Overhead Renewal, Inglewood, Taranaki

Ngā nama

The numbers

Our quantitative data for the year.

Financial summary

ADR reference 3.3a, 3.3b, 3.3c

	Actual FY22	Actual CPP regulatory period to date	Forecast FY22	Forecast CPP regulatory period to date	Variance FY22	Variance CPP regulatory period to date
\$000						
Total expenditure (Totex)	311,672	1,145,648	289,053	1,126,627	22,619	19,021
Capital expenditure (Capex)	208,217	773,702	190,610	738,507	17,607	35,195
Operational expenditure (Opex)	103,455	371,946	98,443	388,120	5,012	(16,174)

	Actual FY22	Actual CPP regulatory period to date	Forecast FY22	Forecast CPP regulatory period to date	Variance FY22	Variance CPP regulatory period to date
\$000						
Network (Opex)						
Preventative maintenance	12,319	37,468	12,665	50,863	(346)	(13,395)
Corrective maintenance	18,595	64,975	14,315	57,238	4,280	7,737
Reactive maintenance	7,435	28,469	8,148	31,519	(713)	(3,050)
Vegetation management	9,966	41,491	10,236	40,185	(270)	1,306
System operations and network support (SONS)	18,125	67,479	16,486	64,758	1,639	2,721
Total	66,440	239,882	61,850	244,563	4,590	(4,681)

	Actual FY22	Actual CPP regulatory period to date	Forecast FY22	Forecast CPP regulatory period to date	Variance FY22	Variance CPP regulatory period to date
\$000						
Business support costs						
Corporate	22,194	88,471	25,566	101,034	(3,372)	(12,563)
Facilities	1,682	6,008	2,225	8,539	(543)	(2,531)
Insurance and governance	2,956	10,213	2,470	9,481	486	732
Information communication technology (ICT) (Opex)	10,183	27,372	6,332	24,503	3,851	2,869
Total	37,015	132,064	36,593	143,557	422	(11,493)

\$000	Actual FY22	Actual CPP regulatory period to date	Forecast FY22	Forecast CPP regulatory period to date	Variance FY22	Variance CPP regulatory period to date
Asset replacement and renewal						
Overhead structures	56,286	214,156	40,102	144,062	16,184	70,094
Overhead conductors	17,680	36,530	15,777	44,638	1,903	(8,108)
Cables	8,473	47,454	7,260	29,898	1,213	17,556
Zone substations	9,512	35,119	16,708	62,429	(7,196)	(27,310)
Distribution transformers	5,075	28,449	10,075	39,257	(5,000)	(10,808)
Distribution switchgear	5,386	28,990	10,424	40,493	(5,038)	(11,503)
Secondary systems	2,922	12,619	2,710	16,778	212	(4,159)
Total	105,334	403,317	103,056	377,555	2,278	25,762

\$000	Actual FY22	Actual CPP regulatory period to date	Forecast FY22	Forecast CPP regulatory period to date	Variance FY22	Variance CPP regulatory period to date
Growth and security						
Major projects	27,141	80,107	37,376	118,573	(10,235)	(38,466)
Minor projects	14,480	31,642	7,004	40,885	7,476	(9,243)
Routine	7,982	72,158	15,968	62,087	(7,986)	10,071
Communications	5,647	20,174	1,995	15,320	3,652	4,854
Reliability	4,434	26,988	3,200	15,062	1,234	11,926
Total	59,684	231,069	65,543	251,927	(5,859)	(20,858)

\$000	Actual FY22	Actual CPP regulatory period to date	Forecast FY22	Forecast CPP regulatory period to date	Variance FY22	Variance CPP regulatory period to date
Other network (Capex)						
Consumer connection	25,584	63,711	10,910	47,180	14,674	16,531
Asset relocations	2,133	5,007	890	3,440	1,243	1,567
Network evolution	665	2,152	0	0	665	2,152
Total	28,382	70,870	11,800	50,620	16,582	20,250

\$000	Actual FY22	Actual CPP regulatory period to date	Forecast FY22	Forecast CPP regulatory period to date	Variance FY22	Variance CPP regulatory period to date
Non network						
ICT	8,541	47,864	7,603	49,566	938	(1,702)
Facilities	6,276	20,582	2,608	8,839	3,668	11,743
Total	14,817	68,446	10,211	58,405	4,606	10,041

Major projects

ADR reference 3.3j

These are multi-year projects, so the annual figures don't reflect the status of the project. For more detail go to www.powerco.co.nz and look for the project page.

Project and description	Progress	\$000	Actual FY22	Forecast FY22	Variance FY22
Papamoa Install two 33kV cable circuits from Te Matai GXP to Papamoa east, construct a new zone substation at Papamoa east (Wairakei) and a new 33kV indoor switchboard at Te Matai GXP.	Cables, substation and switchboard installed and commissioned in FY19. Project complete.		2	0	2
Palmerston North Install new 33kV cables in the Palmerston North CBD to reinforce supply. Construct a new zone substation (Ferguson) and install new 33kV circuits between Linton GXP and the new substation. Construct a new 33kV indoor switchboard at Linton GXP.	Ferguson St zone substation was commissioned in mid 2019, and a second transformer added in FY21. 11kV feeder reconfigurations progressed during FY20. Linton to Ferguson cables and Linton switchgear works constructed during FY22 (commissioning early FY23). Commencing Ferguson-Main St-Keith St cabling, commissioning expected FY23.		4,576	4,449	127
Putāruru Construct new 110/33kV substation adjacent to the existing Putāruru zone substation. Construct a new 110kV circuit from Arapuni hydro to the new substation.	110/33kV substation design and construction underway in FY22. Final line route agreed. Procurement and early construction activities completed in FY22. Construction underway, commissioning planned for end of FY23.		5,801	9,493	(3,692)
Whangamatā Install a battery energy storage solution (BESS) and integrated standby diesel generator at Whangamatā zone substation.	BESS and diesel generator installation was completed in FY20, with commissioning in November 2019. Project complete.		175	63	112
Omokoroa Install a 33kV cable from Wairoa Rd to the Omokoroa substation, and another between Greerton switching station and Bethlehem substation. Construct a new 33kV indoor switchboard at the Omokoroa substation. Install a new capacitor bank at Aongatete.	Cabling works commenced in FY22, completion expected FY23. Omokoroa substation works have been impacted by the Tauranga Northern Link highway project, with the works currently on hold.		3,812	1,013	2,799
Kopu-Tairua Reconductor the existing 66kV line between Kopu GXP and Tairua substation.	Updated cost estimates show this project is now significantly more expensive than originally forecast. In FY22 we re-evaluated options, and we are now progressing with a combination of backup generation and third party non-network support. An ROI and RFP were published in FY22, and received good interest. We are working through finalising agreements for non-network support. The reconductoring works is on hold.		0	0	0
Kopu-Kauaeranga Reconductor the existing 66kV line between Parawai and Kauaeranga Valley and thermally upgrade the line between Kopu GXP and Parawai. Construct a new 110kV overhead line from the Kopu GXP to the Kauaeranga Valley.	Reconductoring and thermal upgrade works now complete. New 110kV line route consented, awaiting resolution of Treaty settlement claim. Timing being reconsidered alongside options re-evaluation for Kopu-Tairua.		2	1,632	(1,630)

Project and description	Progress	\$000	Actual FY22	Forecast FY22	Variance FY22
Moturoa-New Plymouth GXP Install dual 33kV cable circuits from Carrington Street GXP to Moturoa zone substation.	New 33kV cable circuits have been installed and were commissioned in August 2019. Project complete.		(89)	0	(89)
Kerepehi-Paeroa Install backup diesel generation at Kerepehi.	The preferred CPP option of a new 33kV line between Kerepehi and Paeroa is no longer viable. After re-evaluating options, a backup generation solution at Kerepehi is now being investigated. Following a review of the overall Major Projects portfolio, this project has been deferred to after the CPP period due to its lower priority.		87	4,965	(4,878)
Whenuakite Construct a new zone substation at Whenuakite, south of Whitianga and install new 66kV line deviation off the existing Tairua-Whitianga circuit.	This project has been deferred beyond the current planning period, following significant cost increases due to the poor geotechnical conditions of the overhead line pole foundations. We are now investigating potential non-network options to support network security in the Cooks Beach, Hahei and Hot Water Beach areas, such as from distributed generation or third party provided solutions.		750	1,648	(898)
Matarangi Construct a new zone substation at Matarangi and install a new 66kV circuit from Whitianga substation to the new substation.	The original project for a new 66kV zone substation has been deferred as the full 66kV line/cable route has yet to be secured. The network issues at Matarangi will now be resolved via backup generation, and the new Matarangi zone substation remains a longterm solution depending on demand growth in the area. Concept design for the generation was completed in FY22.		46	4,584	(4,538)
Putāruru-Tirau Install a new 33kV underground cable between Putāruru and Tirau substations.	33kV cable was commissioned in late FY22.		7,051	0	7,051
Kaimarama-Whitianga Construct a new gas insulated 66kV switchboard (GIS) at Kaimarama.	Changes to the National Environment Standards (NES) in late 2020 have introduced strong protections for wetland areas, which were subsequently identified near our planned switching station site. Consenting challenges forced us to abandon our planned site, following advice from the Waikato Regional Council. We are now exploring alternative sites in the area where the switching station construction can be staged.		473	2,444	(1,971)
Kereone-Walton Install a new 33kV cable link between the Kereone Tee and the Walton zone substation. Construct a new 33kV switchboard and a 5MVAR switched capacitor bank at Walton substation.	Detailed design completed in FY22, and substation and cable construction has commenced. Capacitor bank has been deferred until required, but its connection is accommodated in the substation design.		558	4,207	(3,649)
Feilding-Sanson-Bulls Construct a new 33kV subtransmission link between the Sanson and Bulls substations. Construct a new 33/11kV zone substation at the Ōhakea airbase. Install new 33kV switchgear at Sanson and Bulls substations. Thermally upgrade a section of the existing 33kV line between Marton and Bulls.	New Ōhakea substation commissioned in FY22. Cabling works commenced. Commissioning the substation works has been deferred at Bulls to early FY24 due to challenges securing resources.		3,345	2,878	467
Pyes Pa Construct a new 33/11kV zone substation at Pyes Pa, Tauriko.	The Pyes Pa substation was commissioned in May 2018.		0	0	0
Inglewood Convert Inglewood substation to 11kV by upgrading the remaining 6.6kV/415V distribution transformers.	Second stage of transformer conversions completed in FY22. Final stage is planned for FY23.		275	0	275
Coromandel generation Install backup diesel generation at Coromandel township.	Backup generation at Coromandel has been brought forward, with concept design works completed in FY22. The solution improves security to Coromandel, and also supports the deferral of the Kopu-Tairua reconductoring project.		277	0	277

Note:: In addition to the documents mentioned in the narrative above, all projects are further discussed in Chapter 15 and Appendix 8 of the 2021 Asset Management Plan, with key project updates also discussed in the AMP22 summary. Project overview documents describing the major projects as at the time of the CPP submission are available on the Commerce Commission's website.

For information about what we delivered in the fourth year of our CPP visit powerco.co.nz

Rawa whakahou

Asset renewal

ADR reference 3.3d, 3.3e, 3.3f, 3.3i

km	Actual FY22	Forecast FY22	Variance FY22
Conductor replacement by region			
Western region	128	218	(90)
Eastern region	80	122	(42)
Total	208	340	(132)

Number

Overhead structures

Concrete poles / steel structure	3,200	3,030	170
Wood poles	1,275	1,888	(613)
Other pole types	0	40	(40)
Total	4,475	4,958	(483)

Number

Overhead structures by region

Western region	3,049	3,498	(449)
Eastern region	1,426	1,460	(34)
Total	4,475	4,958	(483)

Number

Zone substation switchgear

Made up of:

Outdoor circuit breakers	2	6	(4)
Indoor switchboards	1	5	(4)

Number

Transformer replacement

Distribution transformers (up to 22kV)	394	427	(33)
Power transformers (22kV up to 110kV)	0	2	(2)

Note: Conductor, pole and distribution transformer replacement quantities are based on an estimate of the number of assets replaced from design and as-built documentation but are not yet completed in our GIS system. Conservative assumptions have been used to ensure the replacement quantities are not overstated.

For information about what we delivered in the fourth year of our CPP visit powerco.co.nz

Rawa wāriu

Unit rate

ADR reference 3.3g, 3.3h

\$	Actual FY22 Sub-transmission	Actual FY22 Distribution	Actual FY22 Low voltage
Average unit value per renewed asset			
Poles	9,298	7,808	7,175
Crossarm assemblies	3,223	1,665	1,681
Conductor (per km)	n/a	27,728	38,594

\$

Average unit value per renewed asset

Power transformers	n/a
Distribution transformers	25,336
Zone substation switchgear	n/a

Note: There has been no sub-transmission conductor installed/commissioned in FY22. No zone sub-switchgears have been as-built and capitalised for FY22 to calculate a meaningful unit rate. No power transformer renewed in FY22. Also, the pole unit rate presented is exclusive of associated crossarm assemblies.

Ngoikoretanga

Defects

ADR reference 3.3k, 3.3p

Number	Actual FY22	Actual CPP Regulatory period to date
Defect backlog		
Material asset defects in backlog at start of the year	32,188	
New material defect identified	23,444	
Material defects remedied	19,870	76,928
Material asset defects in backlog at end of the year	35,762	

Number	Actual FY22	Actual CPP Regulatory period to date
Red tag poles		
Identified	88	248
Replaced	68	208

Note: Defects remedied include both defects closed through field work and defects cancelled through data cleansing programmes.

Mātaītanga

Inspections

ADR reference 3.3l, 3.3m, 3.3n, 3.3o

Number	Actual FY22	Actual CPP Regulatory period to date
Overhead lines - Western region		
Number of poles	39,190	146,825
Estimated line length km	2,514	9,420
Overhead lines - Eastern region		
Number of poles	17,959	66,524
Estimated line length km	1,152	4,268
Transformers - Western region		
One pole mounted transformer / substation	3,704	12,808
Two pole mounted transformers / substations	71	314
Total	3,775	13,122
Ground mounted transformers	6,876	27,425
Transformers - Eastern region		
One pole mounted transformer / substation	1,912	6,574
Two pole mounted transformers / substations	45	124
Total	1,957	6,698
Ground mounted transformers	10,068	38,561

Ngā taipā whakaweto

Vegetation management

ADR reference 3.3q

Number	Actual FY22	Actual CPP Regulatory period to date	Forecast FY22	Variance FY22
Vegetation management				
Tree sites trimmed	2,736			
Tree sites removed	12,879			
Tree sites sprayed	595			
Total tree sites managed	16,210	52,470	9,263	6,947
% of work cleared	175%	126%		

Tōpūtanga pūmanawa ipurangi

Enterprise resource planning

ADR reference 3.3r

\$000	Actual FY22	Forecast FY22
Enterprise resource planning		
Expenditure	4,860	2,776

Aru kaimahi

Staff

ADR reference 3.3s

Number	Actual FY22	Forecast FY22	Variance FY22
Staff recruitment			
Full-time equivalent staff recruited (FTEs)	3	(3)	6

Note: Additional FTEs recruited in FY22 were primarily in the following areas:
 - Information Services
 - Finance and Business Services

Pakaritanga o te pūnaha hiko

Network performance

ADR reference 3.3t,3.3u,3.3v

Minutes	Actual FY22	Limit FY22
SAIDI (Planned)		
Western region	96.910	
Eastern region	94.454	
Powerco SAIDI (Planned)	95.740	98.192
SAIFI (Planned)		
Western region	0.409	
Eastern region	0.387	
Powerco SAIFI (Planned)	0.399	0.414
SAIDI (Unplanned)		
Western region	257.486	
Eastern region	138.965	
Powerco SAIDI (Unplanned)	201.078	179.688
SAIFI (Unplanned)		
Western region	2.497	
Eastern region	1.506	
Powerco SAIFI (Unplanned)	2.025	2.216
Minutes	Actual FY22	
Average outage duration		
Planned 6.6kV to 22kV	244.809	
Planned 22kV to 110kV	98.798	
Unplanned 6.6kV to 22kV	111.960	
Unplanned 22kV to 110kV	44.150	

Note: Eastern and Western SAIDI/SAIFI figures presented are in respect to the number of ICPs in the Eastern and Western networks respectively and will not sum to the total Powerco network SAIDI/SAIFI.

Pakaritanga o ngā taupuni whakapaku hiko

Feeder performance

ADR reference 3.3w (i) (ii) (iii) (iv)

Interruption duration index for 10 worst feeders

F1

Feeder	Index	Location
Rereatukahia Rd	2,996	Tauranga, Katikati Sub
Kiwitahi	2,535	Valley, Piako Sub
McCabe Road	1,767	Valley, Mikkelsen Road Sub
Rangiuru	1,131	Tauranga, Te Puke Sub
Studholme St	943	Valley, Morrinsville Sub
Pahoia	930	Tauranga, Omokoroa Sub
Wharawhara Road	674	Tauranga, Katikati Sub
Eltham Town North	667	Taranaki, Eltham Sub
Matapu	661	Taranaki, Kapuni Sub
Blake St	604	Taranaki, Waitara West Sub

Number of feeders exceeding interruption duration targets

F1 40

F2

Feeder	Index	Location
Windfarm	8,603	Wairarapa, Hau Nui Sub
Waterworks Rd	7,661	Whanganui, Kai Iwi Sub
Linton	1,528	Manawatū, Turitea Sub
Aokautere	1,464	Manawatū, Turitea Sub
Whiteley St	846	Taranaki, Moturoa Sub
Broadway	539	Whanganui, Arahina Sub
Browne St	437	Taranaki, Waitara West Sub
Queen St	386	Valley, Thames Sub
Ōhakea	366	Manawatu, Sanson Sub
Marton	366	Whanganui, Arahina Sub

F2 56

F3

Feeder	Index	Location
Tarata	2,423	Taranaki, Motukawa Sub
Wills Rd	2,021	Tauranga, Aongatete Sub
Barrett Rd	1,928	Tauranga, Omokoroa Sub
Portland Quay	1,738	Taranaki, Livingstone Sub
Waimapu	1,429	Tauranga, Welcome Bay Sub
Ōakura	1,361	Taranaki, Ōakura Sub
Revans St	1,355	Wairarapa, Featherston Sub
Roads	1,155	Tauranga, Te Puke Sub
Toko	1,144	Taranaki, Douglas Sub
Middlebrook	1,119	Tauranga, Katikati Sub

F3 81

F4

Feeder	Index	Location
Matakana Rd	3,129	Tauranga, Aongatete Sub
Bowentown	2,906	Tauranga, Kauri Point
Old Coach Rd	2,895	Tauranga, Pongakawa Sub
Whakamarama	2,891	Tauranga, Omokoroa Sub
Lockington Road	2,860	Tauranga, Aongatete Sub
Te Puna	2,828	Tauranga, Omokoroa Sub
Keenan Rd	2,784	Tauranga, Pyes Pa Sub
Katikati	2,517	Tauranga, Aongatete Sub
Mauriceville	2,488	Manawatū, Parkville Sub
Rongokokako	2,474	Manawatū, Parkville Sub

F4

93

F5

Feeder	Index	Location
Castlepoint	7,315	Wairarapa, Tinui Sub
Coast Road	6,744	Manawatū, Pongaroa Sub
Waione	4,265	Manawatū, Pongaroa Sub
Langdale	3,946	Wairarapa, Tinui Sub
Tuturumuri	3,773	Wairarapa, Hau Nui Sub
Annedale	2,982	Wairarapa, Tinui Sub
Blairlogie	2,537	Wairarapa, Awatoitoi Sub
Otaraoa Rd	2,186	Taranaki, McKee Sub
Mangapakeha	2,181	Wairarapa, Awatoitoi Sub
Main Rd Motonui	1,584	Taranaki, Waitara East Sub

F5

11

Pakaritanga o ngā taupuni whakapaku hiko

Feeder performance

ADR reference 3.3w (i) (ii) (iii) (iv)

Interruption frequency index for 10 worst feeders

F1		
Feeder	Index	Location
Rangiuru	8	Tauranga, Te Puke Sub
Wharawhara Road	6	Tauranga, Katikati Sub
Kiwitahi	5	Valley, Piako Sub
Rereatukahia Rd	5	Tauranga, Katikati Sub
Arapuni St	5	Valley, Putāruru Sub
Blake St	4	Taranaki, Waitara West Sub
Imlay	4	Whanganui, Beach Rd Sub
Devon Rd	4	Taranaki, Bell Block Sub
Matapu	4	Taranaki, Kapuni Sub
Pahoia	4	Tauranga, Omokoroa Sub

Number of feeders exceeding its interruption frequency targets

F1	40
----	----

F2		
Feeder	Index	Location
Linton	13	Manawatū, Turitea Sub
Aokautere	10	Manawatū, Turitea Sub
Windfarm	8	Wairarapa, Hau Nui Sub
Waterworks Rd	8	Whanganui, Kai Iwi Sub
Ōhakea	6	Manawatū, Sanson Sub
Colombo Rd	5	Wairarapa, Te Ore Ore Sub
Heads Rd	5	Whanganui, Castlecliff Sub
Whiteley St	5	Taranaki, Moturoa Sub
Marton	4	Whanganui, Arahina Sub
Broadway	4	Whanganui, Arahina Sub

F2	44
----	----

F3		
Feeder	Index	Location
Tarata	18	Taranaki, Motukawa Sub
Revans St	12	Wairarapa, Featherston Sub
Hunterville 22kV	12	Whanganui, Rata Sub
Middlebrook	8	Tauranga, Katikati Sub
Makino	7	Manawatū, Feilding Sub
Portland Quay	7	Taranaki, Livingstone Sub
Factory	7	Whanganui, Rata Sub
Waite St	7	Wairarapa, Featherston Sub
Toko	6	Taranaki, Douglas Sub
Glover Rd West	6	Taranaki, Cambria Sub

F3	89
----	----

F4

Feeder	Index	Location
Pirinoa	15	Wairarapa, Tuhitarata Sub
Manaia Rd	12	Taranaki, Kaponga Sub
Colville	12	Valley, Coromandel Sub
Tainui	11	Tauranga, Pongakawa Sub
Ratapiko	11	Taranaki, Motukawa Sub
Waituna	10	Manawatū, Kimbolton Sub
Tikorangi	10	Taranaki, Waitara East Sub
Te Miro Rd	10	Valley, Piako Sub
Burnside	9	Wairarapa, Tuhitarata Sub
Inland Coast	9	Taranaki, Ōakura Sub

F4

87

F5

Feeder	Index	Location
Castlepoint	27	Wairarapa, Tinui Sub
Langdale	25	Wairarapa, Tinui Sub
Annedale	21	Wairarapa, Tinui Sub
Blairlogie	18	Wairarapa, Awatoitoi Sub
Mangapakeha	15	Wairarapa, Awatoitoi Sub
Coast Road	15	Manawatū, Pongaroa Sub
Waione	12	Manawatū, Pongaroa Sub
Tuturumuri	12	Wairarapa, Hau Nui Sub
Main Rd Motonui	10	Taranaki, Waitara East Sub
Bideford	9	Wairarapa, Te Ore Ore Sub

F5

13

Note: Feeder duration and interruption index represent the average duration and number of interruptions a feeder experiences in a given year.

ICP outages, distribution transformer performance

ADR reference 3.3w (v) (vi) (viii)

Duration of outages experienced per distribution transformer for the 20 worst served distribution areas

F1 Transformer	Duration Minutes	Location
TC2-140:B	4,744	Tauranga, Pahoia
TC2-171:B	4,744	Tauranga, Pahoia
TC2-177:B	4,744	Tauranga, Pahoia
TC2-269:B	4,744	Tauranga, Pahoia
TC942:B	4,697	Valley, Kiwitahi
M4365:E	4,556	Taranaki, Manaia
M4345:E	4,163	Taranaki, Manaia
M4355:E	4,163	Taranaki, Manaia
M4360:E	4,163	Taranaki, Manaia
M4350:E	4,163	Taranaki, Manaia
X5154:E	4,069	Taranaki, Manaia
M4280:E	4,069	Taranaki, Manaia
M4375:E	4,069	Taranaki, Manaia
TC853:B	4,042	Valley, McCabe Road
TC1612:B	4,042	Valley, McCabe Road
TC1991:B	4,042	Valley, McCabe Road
TC240:B	4,042	Valley, McCabe Road
TC6110:B	4,042	Valley, McCabe Road
TP1282:B	4,042	Valley, McCabe Road
TP2147:B	4,042	Valley, McCabe Road

F2 Transformer	Duration Minutes	Location
X1764:W	19,860	Whanganui, Waterworks Rd
X2290:W	19,860	Whanganui, Waterworks Rd
X2567:W	19,860	Whanganui, Waterworks Rd
X1765:W	19,860	Whanganui, Waterworks Rd
X2945:W	19,860	Whanganui, Waterworks Rd
X1760:W	18,525	Whanganui, Waterworks Rd
X2939:W	18,325	Whanganui, Waterworks Rd
X1763:W	18,205	Whanganui, Waterworks Rd
X2559:W	18,205	Whanganui, Waterworks Rd
X1761:W	18,205	Whanganui, Waterworks Rd
X1762:W	18,205	Whanganui, Waterworks Rd
X2504:W	16,879	Whanganui, Waterworks Rd
X1757:W	16,879	Whanganui, Waterworks Rd
X2955:W	16,879	Whanganui, Waterworks Rd
X1758:W	16,879	Whanganui, Waterworks Rd
X1759:W	16,879	Whanganui, Waterworks Rd
X2840:W	16,879	Whanganui, Waterworks Rd
X4042:W	16,879	Whanganui, Waterworks Rd
X1753:W	11,235	Whanganui, Waterworks Rd
X1754:W	11,235	Whanganui, Waterworks Rd

F3 Transformer	Duration Minutes	Location
Z180:W	20,661	Whanganui, Hunterville 22kV
TD5-174:B	18,935	Tauranga, Sandhurst
TP1799:B	18,935	Tauranga, Sandhurst
X2065:N	8,223	Taranaki, Ōakura
Y2856:T	7,247	Taranaki, Tarata
Y3527:T	7,107	Taranaki, Tarata
X4459:T	6,311	Taranaki, Toko
X2567:T	6,311	Taranaki, Toko
X3690:T	6,311	Taranaki, Toko
X3746:T	6,311	Taranaki, Toko
X2820:T	6,311	Taranaki, Toko
TF5-094:B	6,304	Tauranga, Roads
Y3025:T	6,293	Taranaki, Tarata
Y3029:T	6,293	Taranaki, Tarata
Y3026:T	6,293	Taranaki, Tarata
TE4-211:B	6,255	Tauranga, Ohauiti Rd
TF4-023:B	6,060	Tauranga, Waimapu
TP3775:B	6,060	Tauranga, Waimapu
TF4-015:B	6,060	Tauranga, Waimapu
TF4-042:B	6,060	Tauranga, Waimapu

F4 Transformer	Duration Minutes	Location
X3828:T	27,488	Taranaki, Strathmore
X2777:T	21,012	Taranaki, Strathmore
X3255:T	21,012	Taranaki, Strathmore
X3379:T	21,012	Taranaki, Strathmore
X3825:T	21,012	Taranaki, Strathmore
X2497:T	21,012	Taranaki, Strathmore
X4693:T	21,012	Taranaki, Strathmore
T8/274:P	15,916	Manawatū, Hukanui
X2763:W	14,614	Whanganui, Raetihi
X1701:W	14,614	Whanganui, Raetihi
X3346:T	13,167	Taranaki, Strathmore
C6790:E	12,862	Taranaki, Tawhiti Rd
C6800:E	12,862	Taranaki, Tawhiti Rd
C6805:E	12,862	Taranaki, Tawhiti Rd
X2991:W	12,157	Whanganui, Waitotara
X4176:W	11,784	Whanganui, Makirikiri
X2758:T	11,470	Taranaki, Strathmore
X3326:T	11,470	Taranaki, Strathmore
X4939:T	11,470	Taranaki, Strathmore
X3188:T	11,470	Taranaki, Strathmore

F5 Transformer	Duration Minutes	Location
X2021:T	17,901	Taranaki, Cloton Rd South
T9/147:P	12,561	Manawatū, Waione
T9/144:P	12,409	Manawatū, Waione
T9/145:P	12,409	Manawatū, Waione
T9/146:P	12,409	Manawatū, Waione
T9/150:P	12,192	Manawatū, Waione
T9/223:P	12,173	Manawatū, Coast Road
T9/228:P	11,848	Manawatū, Coast Road
T9/217:P	11,811	Manawatū, Coast Road
T9/219:P	11,811	Manawatū, Coast Road
T9/220:P	11,811	Manawatū, Coast Road
T9/221:P	11,811	Manawatū, Coast Road
T9/222:P	11,811	Manawatū, Coast Road
T9/224:P	11,811	Manawatū, Coast Road
T9/225:P	11,811	Manawatū, Coast Road
T9/226:P	11,811	Manawatū, Coast Road
T9/216:P	11,811	Manawatū, Coast Road
7255:P	11,536	Manawatū, Coast Road
T9/117:P	10,681	Manawatū, Waione
T9/143:P	10,489	Manawatū, Waione

Frequency of outages experienced per distribution transformer for the 20 worst served distribution areas

F1 Transformer	Frequency Number	Location
TB1-090:B	10	Tauranga, Wharawhara Road
TC5318:B	10	Valley, Kiwitahi
TP2989:B	10	Valley, Kiwitahi
TC283:B	9	Valley, Kiwitahi
TP3387:B	9	Valley, Kiwitahi
TC2070:B	9	Valley, Kiwitahi
TC5172:B	9	Valley, Kiwitahi
TP595:B	9	Valley, Kiwitahi
TC3203:B	9	Valley, Kiwitahi
TC5070:B	9	Valley, Kiwitahi
TC6048:B	9	Valley, Kiwitahi
TP1034:B	9	Valley, Kiwitahi
TP1970:B	9	Valley, Kiwitahi
TC1791:B	9	Valley, Kiwitahi
TC3030:B	9	Valley, Kiwitahi
TC5367:B	9	Valley, Kiwitahi
TC5882:B	9	Valley, Kiwitahi
TP1559:B	9	Valley, Kiwitahi
TC1139:B	9	Valley, Kiwitahi
TC930:B	9	Valley, Kiwitahi

F2 Transformer	Frequency Number	Location
T2/356:P	21	Manawatū, Linton
T2/306:P	20	Manawatū, Linton
T2/344:P	20	Manawatū, Linton
T2/348:P	20	Manawatū, Linton
T2/362:P	20	Manawatū, Linton
T2/5:P	20	Manawatū, Linton
7423:P	20	Manawatū, Linton
7414:P	19	Manawatū, Linton
7415:P	19	Manawatū, Linton
7416:P	19	Manawatū, Linton
7417:P	19	Manawatū, Linton
7418:P	19	Manawatū, Linton
T2/13:P	19	Manawatū, Linton
T2/14:P	19	Manawatū, Linton
T2/15:P	19	Manawatū, Linton
T2/423:P	19	Manawatū, Linton
T2/638:P	19	Manawatū, Linton
T2/659:P	19	Manawatū, Linton
T2/704:P	19	Manawatū, Linton
T2/822:P	19	Manawatū, Linton

F3 Transformer	Frequency Number	Location
Y3438:T	23	Taranaki, Tarata
Y2377:T	23	Taranaki, Tarata
Y2593:T	23	Taranaki, Tarata
Y2633:T	23	Taranaki, Tarata
Y2837:T	23	Taranaki, Tarata
Y3045:T	23	Taranaki, Tarata
Y3224:T	23	Taranaki, Tarata
Y2407:T	23	Taranaki, Tarata
Y2832:T	23	Taranaki, Tarata
TF4-030:B	22	Tauranga, Waimapu
TF4-031:B	22	Tauranga, Waimapu
Y3319:T	22	Taranaki, Tarata
Y3732:T	22	Taranaki, Tarata
T4636:B	22	Tauranga, Waimapu
T4750:B	22	Tauranga, Waimapu
TF4-015:B	22	Tauranga, Waimapu
TF4-023:B	22	Tauranga, Waimapu
TF4-042:B	22	Tauranga, Waimapu
TP1532:B	22	Tauranga, Waimapu
TP3699:B	22	Tauranga, Waimapu

Number of consumers with 5+ planned interruptions

F1 38

F2 128

F3 417

F4 Transformer	Frequency Number	Location
T2951:M	23	Wairarapa, Burnside
TC2948:B	23	Valley, Colville
T3842:M	23	Wairarapa, Burnside
T1496:M	22	Wairarapa, Burnside
T1499:M	22	Wairarapa, Burnside
T1502:M	22	Wairarapa, Burnside
T1503:M	22	Wairarapa, Burnside
T2823:M	22	Wairarapa, Burnside
X4902:T	22	Taranaki, Cloton Rd Industrial
T1504:M	22	Wairarapa, Burnside
T2433:M	22	Wairarapa, Burnside
T2964:M	21	Wairarapa, Burnside
X3730:T	21	Taranaki, Strathmore
T1392:M	21	Wairarapa, Burnside
T1497:M	21	Wairarapa, Burnside
T1498:M	21	Wairarapa, Burnside
T2519:M	21	Wairarapa, Burnside
T2714:M	21	Wairarapa, Burnside
X4455:T	21	Taranaki, Strathmore
T8/130:P	20	Manawatū, Mauriceville
F4	1070	

F5 Transformer	Frequency Number	Location
T9/147:P	37	Manawatū, Waione
T9/150:P	37	Manawatū, Waione
T9/144:P	36	Manawatū, Waione
T9/145:P	36	Manawatū, Waione
T9/146:P	36	Manawatū, Waione
T134:M	35	Wairarapa, Langdale
T3937:M	35	Wairarapa, Langdale
T1085:M	34	Wairarapa, Castlepoint
T15:M	34	Wairarapa, Castlepoint
T16:M	34	Wairarapa, Castlepoint
T2073:M	34	Wairarapa, Castlepoint
T2903:M	34	Wairarapa, Langdale
T3293:M	34	Wairarapa, Langdale
T3835:M	34	Wairarapa, Langdale
T4229:M	34	Wairarapa, Langdale
T4412:M	34	Wairarapa, Langdale
T7:M	34	Wairarapa, Castlepoint
T17:M	34	Wairarapa, Castlepoint
T2357:M	34	Wairarapa, Castlepoint
T4128:M	34	Wairarapa, Langdale
F5	202	

Note: For those transformers with the same performance level, alphabetical ordering has been applied to determine their inclusion in the top 20.

Ngā kōamuamu

Complaints

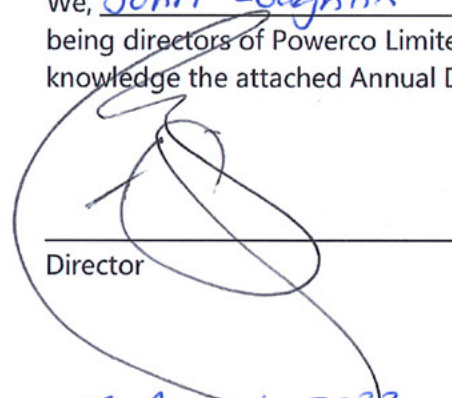
ADR reference 3.3x

	Actual FY22
Percentage of complaints responded to in two days	89%
Number of complaints received	1124
Percentage of complaints resolved within 20 days	70%
Percentage of complaints resolved within 40 days	86%
Number of complaints deadlocked and referred to Utilities Disputes Limited	9
Percentage of complaints deadlocked and referred to Utilities Disputes Limited	1%

Note: In timing our response and resolution of complaints, day one is considered the first business day after the complaint is received.

Certificate for Annual Delivery Report

We, John Loughlin and Michael Cummings,
being directors of Powerco Limited certify that, having made all reasonable enquiry, to the best of our
knowledge the attached Annual Delivery Report of Powerco Limited is true and accurate.



Director

18 August 2022

Date



Director

18 August 2022

Date

Note: Section 103(2) of the Commerce Act 1986 provides that no person shall attempt to deceive or knowingly mislead the Commission in relation to any matter before it. It is an offence to contravene section 103(2) and any person who does so is liable on summary conviction to a fine not exceeding \$100,000 in the case of an individual or \$300,000 in the case of a body corporate.

