

YOUR NETWORK, YOUR NEWS

THANK YOU TO OUR COMMUNITIES

Welcome to Aurora Energy's community update for the first half of 2021. You may have heard news of our plans for a major investment in safety and reliability of the network that brings power to your homes, farms and businesses. Our regulatory body, the Commerce Commission, has recently approved this investment, allowing Aurora Energy to spend up to \$327 million on new assets and network upgrades in coming years.

Here's what the Commerce Commission's John Crawford said:

"Taken together, the package of measures we have released is focused on the long-term benefits to consumers. Aurora must now deliver on its proposal. Without this investment, its network will continue to deteriorate, safety incidents will increase, and its customers will experience more frequent and longer (power) outages."

The decision means we can get on and deliver our plan, while continuing to work closely with you to ensure we show value and benefits for your area. As the work programme progresses, you can expect us to hold levels of planned power outages, required to enable work on the network, at levels similar to the past two years. As work moves to other areas, power outages may affect different customer groups, but overall, levels of outages should not increase. With the improvements, we expect unplanned outages due to faults will remain stable for the next two to three years, before gradually reducing as benefits of upgrades flow through to better network performance. So please read on to find out which projects will benefit your community, and check out our graphic on the back page to see the work we have done or completing in your area.

My commitment to you is to ensure we try to minimise disruption and that we communicate well. We are investing in our communication systems to ensure we do this effectively and we will continue to consult with an independent Customer Advisory Panel of community representatives as we work through our programme. In recent years, this forum has been invaluable to help shape our investment plans. As well as thanking you in the community for your patience while we do this necessary work, I also extend my appreciation to your community leaders for coming together with Aurora Energy to establish meaningful dialogue that will last into the future.

Richard Fletcher
Chief Executive
 (pictured left)



FROM THE ARCHIVES

Workwear has changed a bit! This photo shows workers laying electricity submarine cable across Otago Harbour in 1947. It just so happens, this same cable is due to be replaced this year. **Read on to learn about current works ramping up, and backpage map with information for your area.**

AURORA ENERGY CHARGES FOR 2021

Aurora Energy has set its final prices for the current year. Your electricity bills include Aurora lines charges (typically around a quarter of your power bill), transmission charges and those reflecting your actual power usage from your chosen power retailer. To invest in safety, efficiency and to keep operating the network, we have been unable to avoid raising the Aurora Energy portion of your power bill.

For 2021, for a standard residential household consuming on average 9,000 units (kilowatt hours) a year, the lines component of monthly power bills will rise by \$4.94 for Dunedin customers (up by 7.6% on 2020); by \$9.19 for Central Otago and Wanaka customers (up by 8.5%); and by \$6.20 for Queenstown customers (up by 7.6%). Prices are dependent on power retailers choosing to pass on 100% of these increases to their customers.

Higher prices in Central Otago and Wanaka largely reflect the higher cost per customer of supplying power to parts of the network with fewer people, but many infrastructure assets. There are 56,000 customers connected in Dunedin on a network of 2375 kilometres; 22,000 customers on the 2,600 kilometres-long Central Otago network.

In Queenstown, the number of customers is 14,500 spread over 971 kilometres. However, we are committed to reviewing our pricing structures and will consult with customers later this year about how costs are allocated in each area.



(left to right) Jenny Masters, Cheryl Neill (Peninsula Community Board Member), Kevin Masters enjoying a cup of tea at Harwood's Scott Hall. The hall hosted more than 20 people during the Peninsula outages.

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WE WANT TO REDUCE THE NUMBER OF FAULTS ON THESE LINES AND INCREASE RELIABILITY OF THE POWER SUPPLY TO AURORA CUSTOMERS

Mark Pratt
General Manager Work, Programming and Delivery

AURORA TEAM WALKS THE TALK

The Aurora Energy team has spent the past couple of months out and about in your communities. It was fantastic to meet everyone at Brighton Gala Day, Central Otago A&P Show in Omakau, Mt Benger A&P Show in Roxburgh and at the Wanaka A&P Show in March. Thanks to everyone who said hello to the team and thanks to the organisers for pulling together these events and supplying the fantastic weather. We hope to see you again in 2022!

PENINSULA GETS A MAJOR RENO - AND COFFEE!

As well as a new submarine cable for under Otago Harbour this year, replacement of around 16 kilometres of lines will improve safety and reliability of power supply for Otago Peninsula communities and businesses.

Aurora Energy's Mark Pratt said the new lines and poles will bring the electricity infrastructure in these communities up to modern standards. "This is aimed at reducing faults on these lines and increasing reliability of the power supply to Aurora customers. "Customers have experienced 16 unplanned outages in this area since 2017. These were due to factors such as adverse weather events and defects in ageing lines, poles and power infrastructure," he said. Lines are also sensitive to salt spray, and the new line is designed to withstand adverse weather and salt spray impacts. Two stages of these works, with help from contractors Unison, are now complete. In something new, people experiencing outages were given vouchers to use at a the Penguin Café in Portobello, and a generator provided at Scott Hall for the work at Harwood so residents could access water, tea, coffee, fridge and toilet facilities.

Further sections of this project extending north towards Harington Point will occur in coming months. Aurora Energy will assess and make plans for any community impacts before work re-starts.



VIEW DE-CLUTTERED ALONG HISTORIC WAIPORI LINE

The Waipori hydro-electric scheme was built more than 100 years ago. It was ground-breaking in its day and powered the whole city of Dunedin. Today, Waipori still provides Dunedin with electricity, but the lines and poles ferrying the power into Dunedin and ultimately to homes are getting a long-awaited upgrade.

Aurora Energy, with expertise from contractors Delta, has almost completed replacing all the lines and poles on a section between Berwick and Outram of this historic line, as this photo shows. Work on this began late February on a section along Huntly Rd and should be finished before winter. On average, for every three poles removed, a taller steel one will replace them – so line span will be longer. The benefit of longer spans between poles improves safety for motorists and the visual appearance in the area. Having modern infrastructure also means less maintenance will be needed. Still to come, a complete upgrade of the Outram zone substation, with work on this currently underway. So watch this space!

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COMING UP IN 2021

We are excited to continue our participation as one of the sponsors in the Otago Science and Technology Fair – a fantastic opportunity to foster young people’s interest in electricity and science. We will also host local BA5 events in your area – and actively engage with communities as our investment plans progress. If you have questions or concerns about a project in your community, or would like more information, please reach out to Amy Owen, our Community Relations Adviser on amy.owen@auroraenergy.nz.

ENHANCED SECURITY IN CENTRAL OTAGO

AS WELL AS APPRECIATING YOUR CENTRAL OTAGO VIEWS, WE HOPE YOU'VE NOTICED NEW MODERN STRUCTURES THAT BRING POWER TO YOU. THE POLES AND LINES ALONG THE ROADSIDE ARE PART OF THE LANDSCAPE. BUT IF YOU DO LOOK, AURORA ENERGY'S DUNEDIN AND CROMWELL-BASED TEAM, AND CONTRACTORS IN CENTRAL, ARE MAKING POSITIVE INROADS INTO UPGRADING THESE AGEING STRUCTURES. PLEASE CHECK THE BACK-PAGE GRAPHIC TO SEE WHERE THE WORK HAS BEEN HAPPENING.



LIFT-OFF FOR CLYDE UPGRADES

The power went out for too long in winter in Clyde last year. That's because when a major fault occurs in the area, there is no alternative power supply. We can do better and our recently approved investment plans cater for this!

People in Clyde get their power from the southern end of the town. A project now gathering momentum will create a back-up supply into the town from the north, creating alternative power if a fault occurs.

Aurora General Manager Work Programming and Delivery Mark Pratt said the new Mutton Town express feeder project will provide greater security. This work, using Aurora contractor Network Waitaki, will take place over three weeks to ensure the backup supply is available before winter. "When the planning with affected customers is complete, we will upgrade a section of the overhead

power lines complete with new poles and lines on Mutton Town Road, Clyde. This reinforcement will complete a new 11kV line between Alexandra and Clyde to provide an alternative supply option and extra security to our customers in the area. "As part of our investment, there are several major projects planned over the next six years that will reinforce the supply to the Clyde-Earnsclough area and provide Clyde with a backup supply from Alexandra," Mr Pratt said.

Other projects for this area include:

- Clyde Distribution Transformers Replacements (2021)
- Alexandra substation - Switchgear replacement (2021-22)
- Letts Gully-Springvale Road - Reinforcement project (2021-22)
- Clyde-Earnsclough Substation - Rebuild (2024-25)
- Earnsclough Road - Reinforcement project (2025-26)

GREATER PEACE OF MIND FOR CROMWELL AREA

Residents in Cromwell, Pisa Moorings and Lowburn can now be more secure in the knowledge that if a fault occurs at Aurora's Cromwell substation in Barry Avenue, power to the whole area should not need to go out, says Works Delivery Manager for Central Otago Richard Morris.

A recent upgrade of transformer capacity at Aurora's Cromwell substation means that these growing communities are future proofed for the coming years. Aurora Energy has recently completed the rebuild, a key part of its electricity distribution system, with two new 16/24 MVA power transformers replacing two smaller transformers that had been in service since 1981 when the station was built. Transformers convert high voltage electricity to lower voltages for distribution throughout the communities. As part of the upgrade, existing new modern assets were installed that improved environmental and safety protection at the substation. With the new larger transformers, costing around \$7 million for the whole project, Aurora can meet the growth needs of the community now and into the future.



OMAKAU 'BIRTHDAY'

Parts of our network in Central Otago need "birthdays", as our project teams call them. The main 33 kV electricity line to Omakau, for example, is getting a well overdue birthday this autumn. Any time the area's only 33 kV line fed from Alexandra experiences a fault, residents and businesses around Omakau, including Lauder, Ophir, Becks and Poolburn, lose power. Aurora Energy recognises the problem and has recently surveyed poles and lines, finding defects in equipment along the 33 kV Alexandra to Omakau line, and the 33 kV Omakau to Lauder Flat line, that will be repaired. Included in this work will be 51 pole and 89 crossarm replacements. Also, 256 pole tops will be checked and repaired if defects are found, with 35 poles having possum guards installed. The Omakau zone substation will also receive its last maintenance before eventually being replaced with a modern one, and moved to beside the Omakau stockyards. This autumn, Lauder's zone substation also gets planned maintenance, with several other asset upgrades in the Becks and Lauder area. For the Omakau work, Aurora will provide extra power generation at three spots to maintain local supply during required outages. Finger's crossed for good weather!



MORE ROBUST POWER FOR RIPPONVALE

Connetics contractors installing a new back-feed power supply system at Ripponvale. Fruit processing facilities and cool-stores in an area heavily dominated by orchards and vineyards will now have greater security of power supply with a new alternative supply in Ripponvale Rd, near Cromwell.

Cromwell-based Project Manager Ben Bosustow said about 3 kilometres of new lines and poles have been installed to create a new back-feed supply, which means if there was a fault then the affected area can be isolated and repaired without the need for the power to go off to other customers in the area. This will improve the service to customers in a potential fault caused by a car accident, high winds, or snowstorm, for example. "We can keep the lights on, and if a line fails, everything is not lost," says Vaughan Collier from Connetics who is supervising the project. "It's good to see this happening as a former fault-man. This creates more options for us when faults happen."



ROXBURGH VOUCHERS SWEETEN THE DELAY

By the time you see this newsletter, Roxburgh will hopefully have 1.3km of new power lines, and 23 old poles replaced. Aurora had sent out letters to residents plus vouchers to use at the local 103 The Store café for those inconvenienced by between 1 and 5 planned power outages related to this project. The outages are needed to allow our local contractors to work on lines and poles - safely. Thank you to the Roxburgh community.





AURORA READIES FOR ARROWTOWN NETWORK

Work at the Shotover River Bridge, paving the way for a \$6 million overhaul of the Arrowtown ring network, is underway as Aurora Energy responds to significant construction growth forecast for the area.

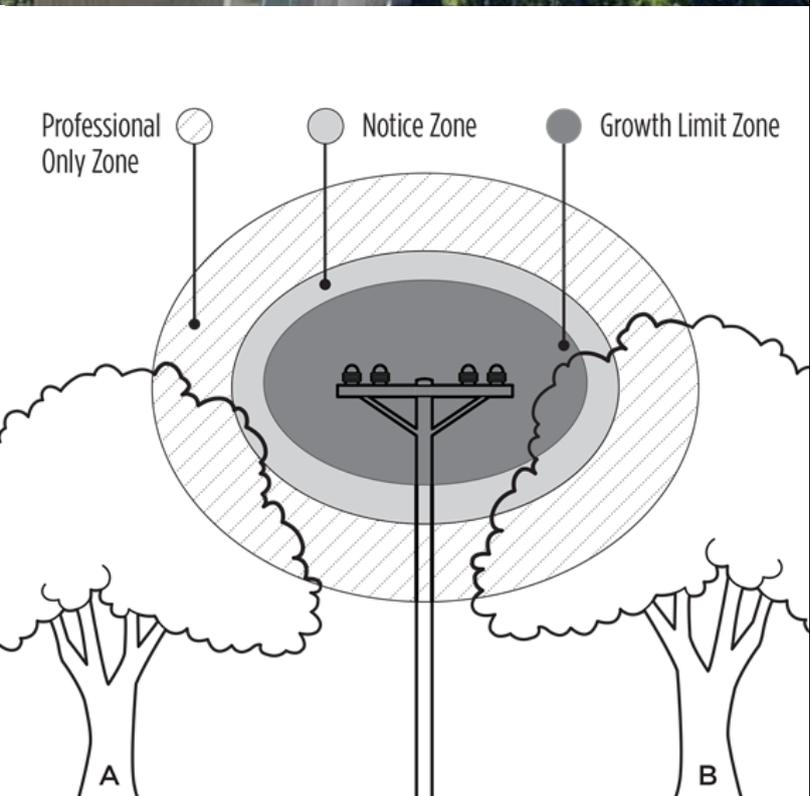
Project Manager Ben Bosustow said the project, once completed by due date of 2024, should provide increased capacity catering to growth and new development in Arrowtown, and greater security of electricity supply for local customers and businesses.

Currently, Arrowtown, Coronet Peak, Dalefield and Remarkables are supplied by two power lines that share the load between them, with limited access to an alternative electricity supply if a fault occurs. These planned improvements, which include a new 33 KV underground cable to run from Frankton to Arrowtown, will enhance security and reliability of our services. This is because the new cable can support the entire Arrowtown area load and allow any faults to be isolated and repaired without power going off.

At the Shotover Bridge, new cable ducts were recently installed under the bridge designed to carry both the 33kV and 11kV cables (plus fibre) over the river. To reduce costs, Aurora worked with the QLDC contractors installing water and wastewater pipes at the same time.

"The new ducting at the Bridge means Aurora can haul cable headed for the Arrowtown ring network at a later date, saving time, costs and interruptions to traffic flow," he said.

Starting in 2024, Aurora will also conduct a further upgrade on the substation at Arrowtown, replacing an older outdoor switchboard with an indoor one. This will reduce exposure to weather, improve security of the switchboard, with less maintenance required.



DON'T FORGET TO LOOK UP

Each year, Aurora Energy's Dunedin and Central Otago networks experience around 50 outages due to plants and trees impacting power lines. Climbable trees near power lines also present a danger to our young people.

As a general rule of thumb, if your tree is within five metres of a power line (please don't try and measure the distance yourself though!) then you need to consult the legal tree regulations: www.auroraenergy.co.nz/safety/trees-and-power-lines/ and seek expert advice from a qualified arborist. By law, no work can be undertaken within 4 metres of a power line without prior permission.

BATTERY AND SOLAR PROJECT IN WANAKA AREA A FIRST

In a first for New Zealand, Aurora Energy is progressing an outsourced solar and battery "alternative to the network" in Wanaka and Hawea.

Aurora Asset and Planning GM Glenn Coates says the partnership with Nelson-based firm solarZero involves installing solar panels and "smart batteries" for customers who sign up to the option in Wanaka and Hawea. Household power supply would be managed online creating a 'virtual power plant.' The project is unique because Aurora does not own the equipment, purchasing the service only, creating greater cost and benefit-sharing.

The benefit to Aurora is the project provides a lower-cost non-network power distribution alternative that customers can switch to during times of high power loading on the network, or when Aurora is maintaining or improving infrastructure and has to reduce network loading. This would reduce peak-time demand, with more work-scheduling flexibility and power reliability.

SolarZero CEO Neil Cowie says for Aurora customers who sign up, the internet-connected battery also provides greater usage-management ability. "The same technology making our mobile phones smarter are also features in the smart battery," he said. With enough connections, this partnership offers a 'virtual power plant' that people tap into.

Mr Coates says in seeking lower cost, more sustainable power distribution, solarZero's technology was a good fit Aurora. "The way communities are using technology is evolving with more electric vehicles and people generating their own electricity. We need to ensure our network and operating systems adapt to the uptake of future technologies to create a win-win for our network, environment and customers." "Globally we are seeing electricity distribution companies going to open market for non-network alternatives. Aurora is pleased to be leading the way in this space in New Zealand," Mr Coates said.

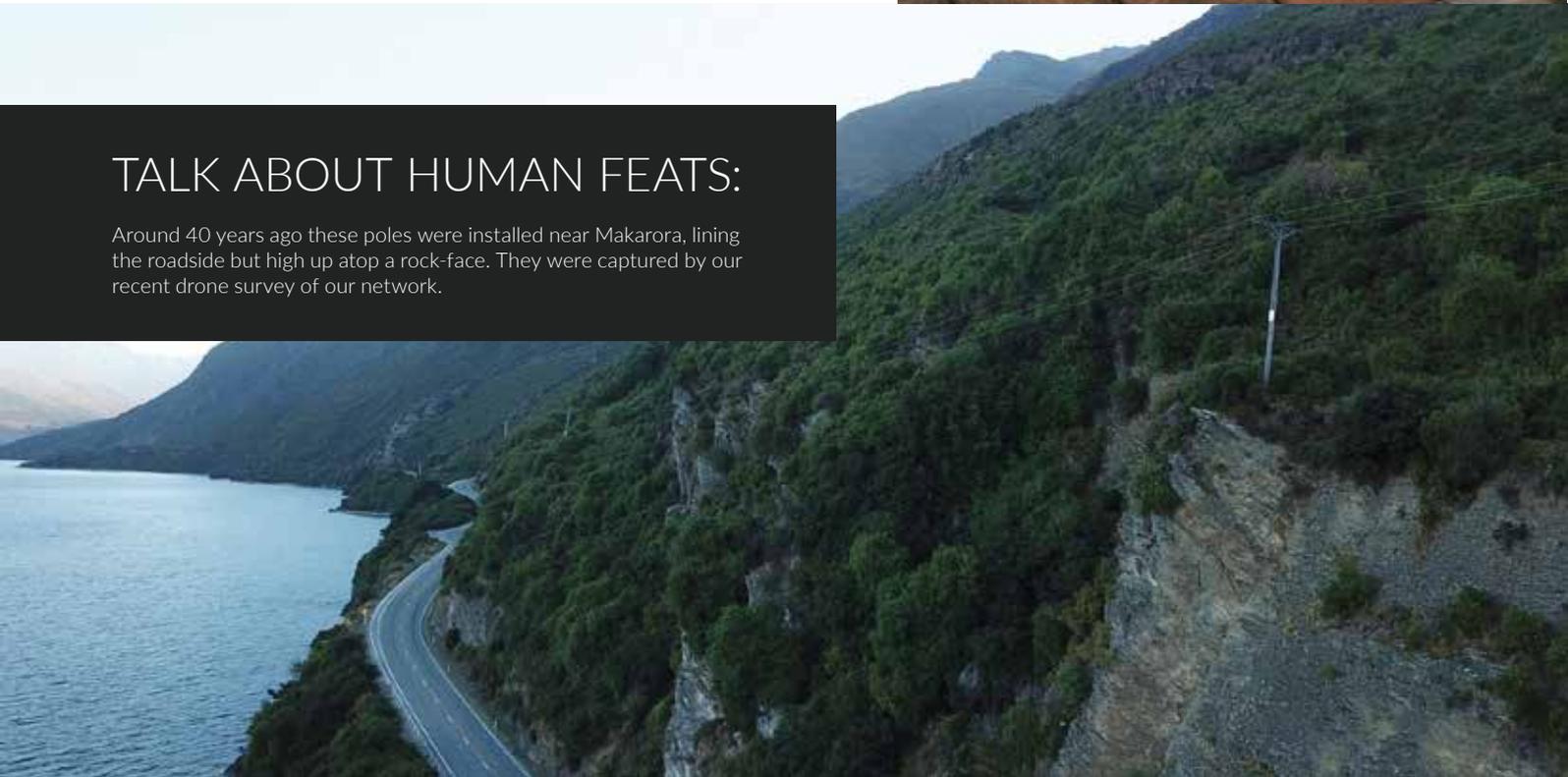
How this works:

SolarZero's solar panels and smart storage battery means stored power can be accessed. SolarZero owns the hardware, manages installation, maintenance and servicing. Users sign up for 20 years and pay solarZero a fixed monthly fee for energy consumption. See www.solarZero.co.nz/upperclutha for information.



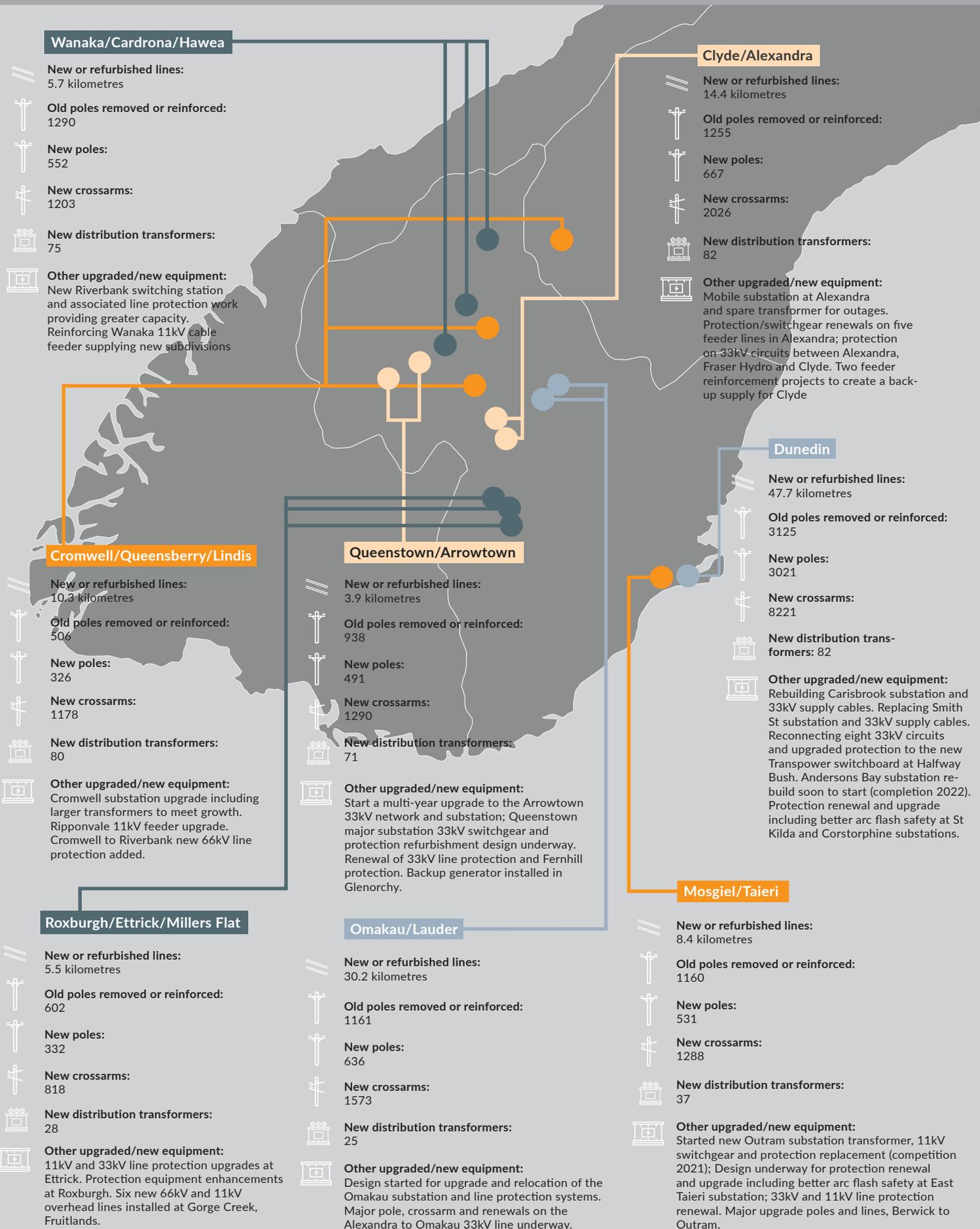
TALK ABOUT HUMAN FEATS:

Around 40 years ago these poles were installed near Makarora, lining the roadside but high up atop a rock-face. They were captured by our recent drone survey of our network.



Improvements on Aurora Energy's Network

Available data on safety and reliability upgrades completed or underway between April 2017 and March 2021.



Equipment definitions

Substations (major): Supply large areas of the community (Between hundreds and a few thousand customers) and contain large transformers and switchgear to convert voltage from higher to more useable lower voltages. **Distribution transformers:** Take the output voltage of a major substation and step it down to 230V for businesses and households. **Protection:** Modern protection systems include smart electronic devices and communication networks to signal to high voltage circuit breakers to trip and isolate faults on the network. Protections systems are critical to a safe network by detecting and enabling de-energisation of faults on the network, preventing live lines on the ground during line, pole or crossarm failures.