wellington electricity™

Asset Management Plan Overview

1 April 2019 - 31 March 2029

Who WE* are

Wellington Electricity is the Electricity Distribution Business that manages the poles, wires and equipment that provide electricity to approximately 400,000 customers in the Wellington, Porirua, Lower Hutt and Upper Hutt areas.

Each year we write an Asset Management Plan (AMP) that shows our service levels to customers, capital investment and network maintenance plans for the next 10 years.

The 2019 AMP talks about:

- Our network development and asset replacement plans over the next 10 years.
- What we need to do to enable customers to make best use of new technology (such as electric vehicles, solar panels and batteries).
- An update on the work that we are doing to improve our ability to respond after a major earthquake.

Key Stats

- We have owned and operated the network in Wellington **since 2008.**
- We are the **fourth largest** distribution business in New Zealand.
- Our total network is around **6,700 km** in length with over **4,100 km** being underground cables.
- We have around **4,000 substations** and over **40,000 poles.**
- We own around **2,000 km** of streetlight circuits but none of the streetlights themselves.

In the next 10 years we are proposing to invest:

Capital Expenditure

$520 million

on network infrastructure

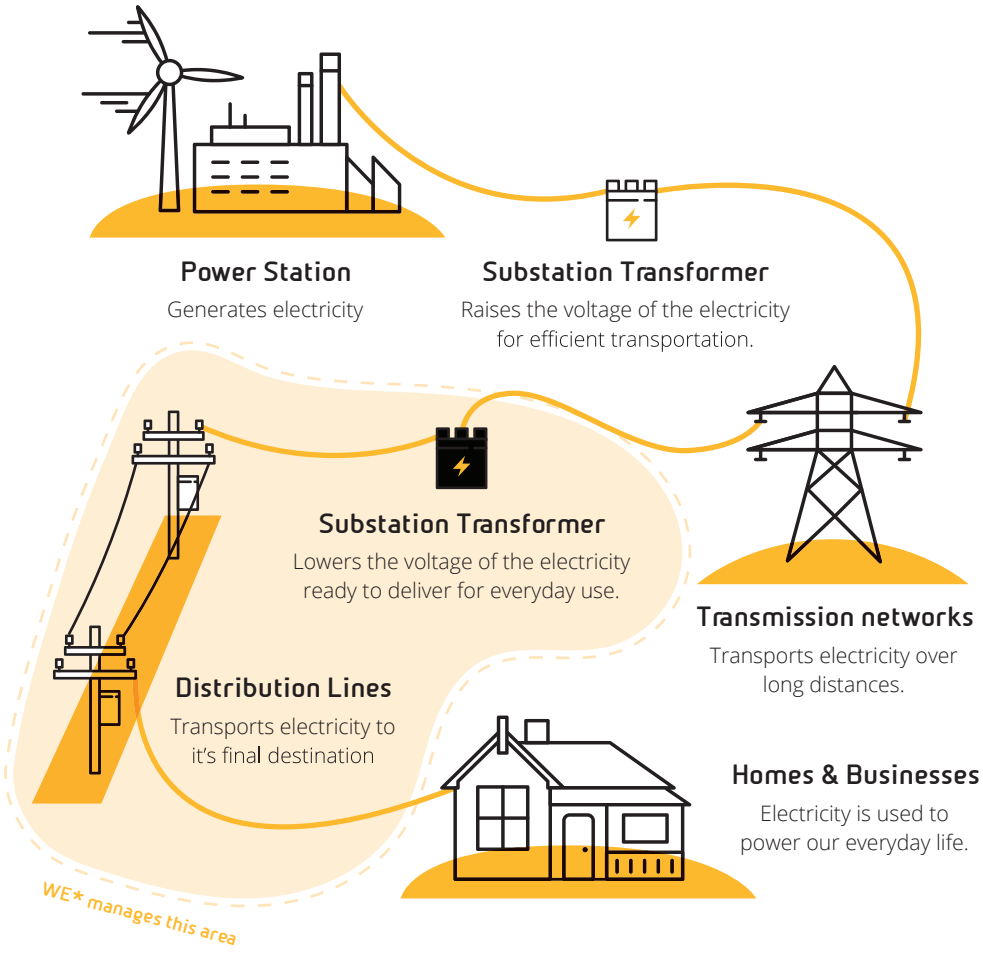
Operational Expenditure

$180 million

on maintaining the network

Where WE* fit

In New Zealand, generators make electricity from primary energy sources (e.g. hydro & wind), which then flows into the transmission network and the distribution networks and eventually into your home or business.
Retailers pay for electricity from the generators, and for transmission and distribution services. Retailers then send you your bill. We are one of the 29 distribution networks in New Zealand.




NORTHWEST AREA
Plimmerton
Pauatahanui GXP
Upper Hutt GXP
Brown Owl
Mana
Titahi Bay
Waitangirua
Trentham
Maidstone
Porirua
Haywards GXP
Kenpuru
Takapu Road GXP
Tawa
Melling GXP
NORTHEAST AREA
Korokoro
Johnsonville
Seaview
Gracefield GXP
Ngauranga
Waikowha
Wainuiomata
Wilton
Kaiwharawhara
Moore Street
The Terrace
SOUTHERN AREA
Karori
University
Frederick Street
Central Park
Nairn Street
Hataitai
Evans Bay
8 Ira street
Palm Grove

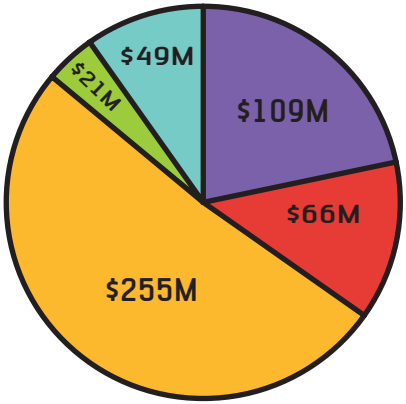
Service Levels

In addition to having the one of the lowest distribution costs in New Zealand[1] our targets for network reliability were both met in 2018/19. This is a positive result for customers.

We have demonstrated our commitment to maintaining network reliability by undertaking initiatives to further improve performance of the network, such as:

- The continuous feeder improvement programme
- Analysis of incidents and outages to identify continual improvement opportunities
- We take a proactive approach installing portable generation, where safe to do so, to manage the time customers are without electricity when doing planned works

Proposed 10 year Capex Investment Breakdown



- New Customer connections
- System Growth
- Replacement of assets
- Relocating assets
- Network improvement

Despite this we are still having some issues where trees fall onto our lines and where members of the public drive into equipment which causes unplanned interruptions to power supply.

[1] PWC's Electricity Line Business 2018 Information Disclosure Compendium

Customer service levels are very important to us and we strive to deliver quality outcomes for customers.

To test the level of service we are providing we undertake customer surveys which help to inform our investment plans.

In addition, we are exploring a number of initiatives to improve customer service levels such as:

- We are establishing new services on our website to make the process of applying for a new connection easier to understand.

- We are partnering with Electricity Retailers of New Zealand to implement a pilot programme, called 'EnergyMate'. The pilot is targeting customers in the city of Porirua with a personalised visit, aimed at developing a plan for managing their energy use and improving the energy efficiency of their homes. The aim is to ensure that families can afford to maintain warm and healthy homes.

What WE* do

We manage and operate the electricity distribution network in Wellington responding to faults, conducting maintenance activities, replacing existing assets when they reach end of life and installing new equipment when required.

We do the following on the network every year:

- Spend about $1.9m conducting vegetation management and trimming trees too close to our lines
- Spend about $18m maintaining our existing assets
- We spend about $20m replacing assets that have reached end of life
- We replace an average of 600 of our power poles every year

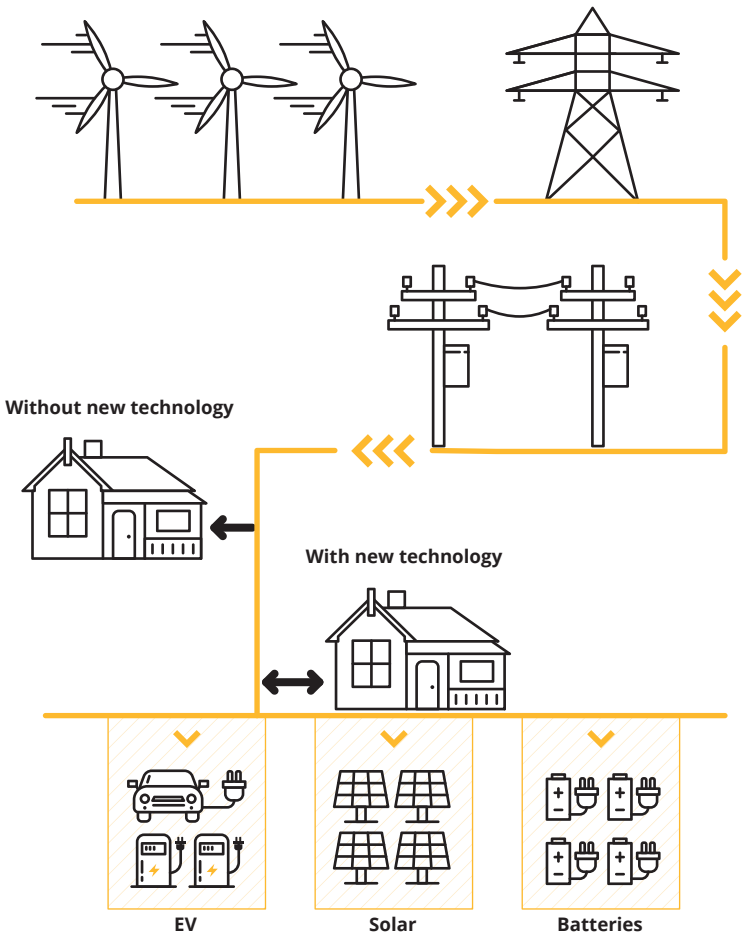
New Technology

New technology (such as electric vehicles, solar panels and batteries) have the potential to increase choices to customers, reduce long term costs and reduce NZ's carbon footprint.

If government targets for increased electric vehicle uptake is realised, it may start to impact parts of our network. This may then result in power quality and asset performance issues if we don't manage the changes effectively.

Some customers are already starting to invest in new technologies. This may eventually lead to a point where they want to offer their excess power back onto our network. This is commonly known as two-way power flows. This term describes when power does not flow just one way (from our network to your house) but can also flow back onto our network from a customer who wants to sell the extra power that they may have in their electric vehicle, battery storage or from solar.

As the owner and operator of the distribution network, we see it as our responsibility to ensure that these two-way power flows don't end up causing issues for other customers.



In order to do this, we will need to invest in technology that is not part of our traditional investment strategies. By investing in these new technologies we can manage the two-way power flows and protect our network and other customers whilst making it possible for customers to make the best use of their technology investments. This is a more cost effective way for all, rather than the traditional model of strengthening the network.

The expected expenditure that we will need as well as more information on what we plan to do is captured in our full AMP which can be found at: **www.welectricity.co.nz/disclosures/asset-management-plan**

Earthquake Readiness

We have a number of known earthquake fault lines in the region. In March 2018 we were granted $31.24 million of additional funding to improve our response after a major earthquake and put the lights back on.

We have split our readiness programme into five work streams. The work streams are:

01 Seismically strengthening 91 of our substation buildings to ensure that they can withstand the shaking.

02 Increase our stock of spares and have them distributed around the region so that we can restore critical power quicker.

03 Upgrade our radio and phone systems to improve our communications after an event.

04 Construct three data centres to ensure we have access to vital information which is accessible should telecommunications links fail.

05 Construct two portable substations (one for Wellington and the other for the Hutt Valley) that can be deployed at any substation which may be severely impacted by an earthquake.

Did you know that after an earthquake:

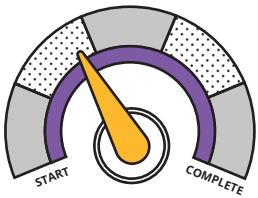
Transportation routes into and around Wellington will be severely impacted limiting the ability to bring back key services.

This may result in the following operational restoration times:

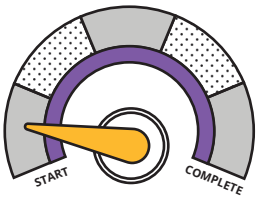
- Roading – 60 to 120 days
- Gas – 60 to 80 days
- Power – 40 to 95 days
- Water – 25 to 75 days

The progress of each work stream is shown below and all are targeted to be completed by March 2021.

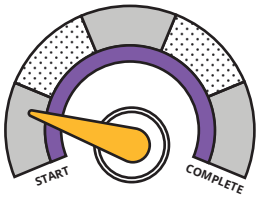
Seismic



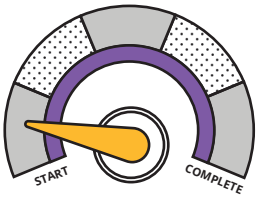
Radio & Phones



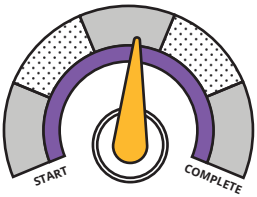
Mobile Sub



Data Centres



Spares



What you can do to support us:

- Let us know when you see something concerning on the network
- Ensure your tree's aren't growing into power lines
- Ensure that our assets are accessible and that you don't have a deck that has been built over them or vegetation that has grown over them
- Use the free before-you-dig service to identify if there are power cables in the vicinity of any excavations you plan to undertake so that you don't hit one of our power cables
- Secure any loose items in your yard (like trampolines) when the wind picks up so that they don't end up flying into power lines

Customer Call Centre:

0800 248 148

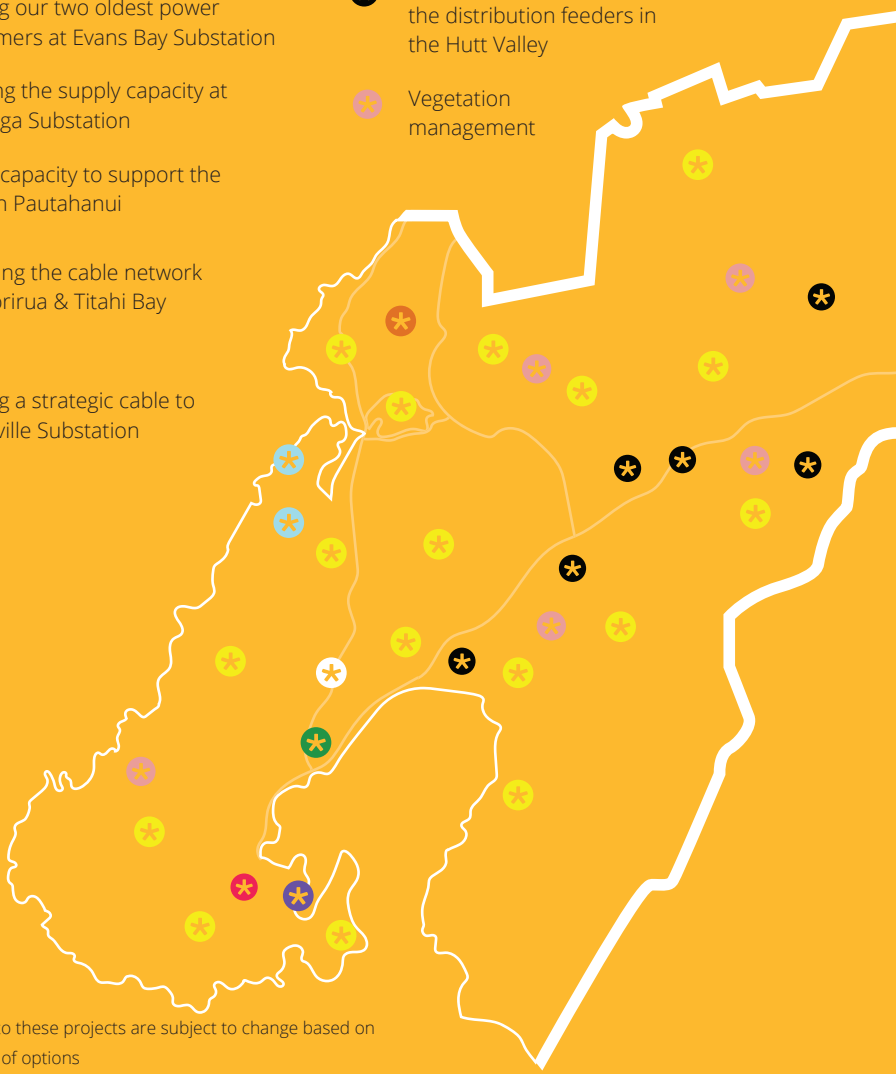
UTILITIES DISPUTES LTD
TAUTOHETOHE WHAIPAINGA

Wellington Electricity is a member of the Utilities Disputes Scheme. If we are unable to provide an acceptable solution for any issue you have, you can take your issue to the Utilities Disputes Commissioner. This is a free and independent service.

Website: www.utilitiesdisputes.co.nz

Our Major Projects for the next 10 years

- Replacing a strategic cable to Frederick Street Substation to increase supply capacity
- Replacing our two oldest power transformers at Evans Bay Substation
- Increasing the supply capacity at Ngauranga Substation
- Building capacity to support the growth in Pautahanui
- Reinforcing the cable network in the Porirua & Titahi Bay areas
- Replacing a strategic cable to Johnsonville Substation
- Seismic Strengthening of 91 buildings across the region
- Improving the reliability of the distribution feeders in the Hutt Valley
- Vegetation management



The final solutions to these projects are subject to change based on detailed evaluation of options

For more information and how to get in touch:

Wellington
Electricity

Telephone
04 915 6100

Email
we_CustomerService@welectricity.co.nz

Web
www.welectricity.co.nz

A copy of our full Asset Management Plan can be downloaded from **www.welectricity.co.nz/disclosures/asset-management-plan**

Smart Power Portal:
http://smarterpower.welectricity.co.nz/