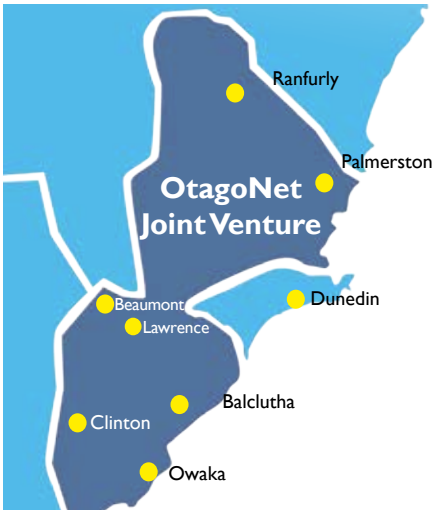
OtagoNet Joint Venture Newsletter November 2014

CONNECTIONS

Who is OtagoNet?

We are the major electricity network services provider for most of Otago.



Three electricity lines companies, including The Power Company Limited (TPCL) and Electricity Invercargill Limited (EIL), formed the OtagoNet Joint Venture (OJV) in July 2002 following the purchase of electricity network assets from the shareholders of the consumer co-operative company Otago Power Limited.

On 30 September 2014, TPCL and EIL took full control of OJV (see story below).

It is a big task keeping the OJV infrastructure in tip-top shape.

Each year we complete around $10 million in capital expenditure. The projects are largely replacing lines and rebuilding 11kV and 33kV lines, but also include substation upgrades and work on transformers, amongst other planned works.

Covering a large area from near St Bathans in the north to the Chaslands in the south and inland from the Blue Mountains in the west to Shag Point on the north east coast, our crews and contractors build 100 kilometres of overhead line renewals every year at a cost of $7 million.

Our asset management strategy to reduce the average age of our network ensures our customers get the safe, secure and reliable supply they need for their homes and businesses.

This newsletter tells you a bit more about our commitment to providing the supply of electricity which meets your needs and promotes growth in the region.

Change for the future

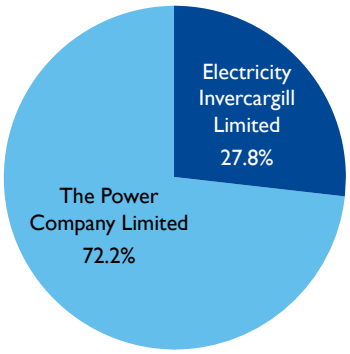
The OtagoNet (OJV) electricity network has had a partial change of ownership. In 2002, The Power Company Limited (TPCL), Electricity Invercargill Limited (EIL) and Marlborough Lines purchased the network from Otago Power Limited and operated a tripartite joint venture.

On 30 September 2014, TPCL and EIL purchased the Marlborough Lines shareholding. This consolidates the ownership of the network to the two lower South Island based network companies.

PowerNet is the network management company that employs the staff who manage the network assets for OJV and the other electricity networks. Having one company manage multiple electricity networks makes a lot of sense, is efficient and cost effective.

The increased investment by TPCL and EIL in the OJV network is a natural progression for the two companies. The interest held since 2002 has been very successful and OJV will continue to ensure the investment in the network is a successful one.

OJV Ownership as at 30 September 2014



The average life of the network has come down over the last decade thanks to OJV's investment in capital works and maintenance, and further increasing the safety, reliability and security of your electricity supply is a key part of the approved work programmes for the future.

The network owners have increased capacity on the network since 2002, allowing for the growth on the predominately rural network, and OJV's asset management planning will carry on this investment.

PowerNet staff, including the team in Balclutha and the Otago Power Services team, continue to make a significant contribution to the OJV electricity network. TPCL and EIL's ownership of those network management and contracting companies has been a key to the success of the network investment and means the electricity network is in very good hands going forward.

OtagoNet purchases Transpower assets

In late March OJV took possession of the Transpower Palmerston Substation and the 110kV lines from Halfway Bush near Dunedin to Palmerston at a cost of $3 million.

"Transpower's divestment of the lines and substation will allow OJV to reconfigure the network to double the reliability of supply in its network area between Palmerston and Dunedin, which serves around 2,300 customers. Network efficiency will also be improved," PowerNet network assets engineer Bevan Cooper says.

The reconfiguration will include converting the 110kV lines to 33kV, tying them into the local sub-transmission network and relocating the flood prone Merton substation away from the coast.

"OJV will be downgrading the operating voltage of transmission lines, which is an unusual approach to enhancing network performance," Bevan says.

"However, under the right conditions, a voltage downgrade can enable a significant improvement in network performance. The Halfway Bush-Palmerston line downgrade is a good example; together with a small modification to the local sub-transmission network, it will substantially boost reliability, halve local sub-transmission losses and avoid significant renewal costs."

Bevan says the co-operation between PowerNet, OJV and Transpower made this transaction happen.

"These big benefits for the customer might never have happened if all three hadn't come to the party," he says.

(L to R) Terry Jones and Bevan Cooper (PowerNet) with Don Simms (Transpower) at the Palmerston Substation

Asset Management Plan 2014-2024 adopted

The OJV Asset Management Plan (AMP) for 2014-2024 was adopted in late March and outlines the work required to improve the safety, security and reliability of the entire network.

The forecast budget for 2015 is approximately $10 million of capital and $5 million of maintenance expenditure and is forecast to continue at these levels for a number of years.

PowerNet and its owners are committed to bringing down the average life of the network and improving the quality of service provided through good infrastructure asset management.

The AMP was completed with the assistance of Hyland McQueen Consultants from Dunedin.

It's not always as easy as it looks

The Summer Hill Road, Wangaloa and Hunt Road, Owaka 11kV line rebuilds were surprisingly deceptive.

"The line rebuilds were being carried out to renew these parts of our network so the customers fed by them would not be affected by an ageing line failure, not to mention the safety issues if a live line was to fall to the ground," PowerNet distribution engineer Chris Walker says.

What started as a simple line rebuild became an interesting exercise in land ownership.

"Both proved to have their specific difficulties around the current line position, road boundaries and problems determining and locating the current landowners," Chris says.

To get these projects designed and started, Chris had to make many visits to landowners and call in experts from a specialist company, Land Registration Services Limited, who assisted the survey and title searches and easement process.

"We are faced with changing times where we now require easements for all of our lines, even if the current landowner is amenable at the time or if the transformer may only service the one property," he says.

"This added requirement, along with the reluctance of some landowners to allow a new easement on their land titles, means the work can take a considerable time, hence early planning is required."

Chris says there can be other complications, such as the actual road not being in the surveyed position.

"These additional traps take us time to sort out with territorial authorities and multiple landowners. Needless to say, the job was completed and became a useful learning exercise for OJV for future, similar works," he says.

33kV line new conductor – Kaka Point to Owaka

A three day turnaround made the rebuild of the 33kV line between Kaka Point and Owaka a testing exercise for most of our field crews during March.

The section which was approximately 14km in length had some poles changed and all wires replaced over the short period. We maintained supply to Owaka township with a diesel generator during the 24 hour period when the single Owaka 33/11kV transformer was re-positioned.

"Having a 24 hour outage also gave us better utilisation of the lines crews and helicopters as we did not have to undertake the job in a manner where we had to reinstate the line each night," network manager Terry Jones says.

"The main transformer at Owaka was also moved to increase clearances and as that took a couple of days, the generator had to run non-stop over the three days."

Staff had to constantly monitor the generator to ensure it was fuelled and working correctly to maintain security of supply to our customers in the affected region.

"The actual work on the line took most of our line gangs from around Otago including Gore, one helicopter plus a further one on standby," Terry says.

"The helicopters were used as they can string the line faster and meant we did not have to get heavy vehicles or winches to the pole sites which were in hilly country with difficult access."

The Kaka Point to Owaka line rebuild was similar in complexity to the Macraes line rebuild but over a shorter distance. OJV used the specialist services of Pat Hyland from Hyland McQueen Limited to assist with the delivery of this project which offers increased reliability, security of supply and reduces the average age of our network.

A helicopter assisted in the 33kV line rebuild between Kaka Point and Owaka

New technology helps inspections

OJV recently purchased GoPro rugged cameras and our staff have attached these to hot sticks to capture photos which aren't visible from the ground. The cameras allow both checking of network assets to create a quick and permanent record and also allow staff to email photos of damage back to our network engineering staff after storms or other events. This allows decisions to be made on repairs or maintenance while the fault staff are still on the ground in the area.

This technology is also useful to show work crews the actual damage caused and remedial work required before they head out on site.

This photo is looking at the split head (top) of a pole. The GoPro camera has been attached to the yellow insulated stick and elevated allowing the pole to be inspected

This photo shows damage to an insulator caused by the extreme heat of an electrical fault. This fault and arc may have been started by some foreign material (e.g. a branch) or a lightning strike. An electric arc is when the electricity jumps across a gap rather than going through the wires

Stay away from downed lines

If you see power lines that are down, don't risk the chance of electrocution. The ground can become alive! Stand back at least 20 metres and call PowerNet system control on 0800 808 587. All lines, even if they are down or broken, should be treated as live.

Call out sagging lines

In bad weather, power lines can sag with snow. In warm weather, the lines can heat up and sag as well. If you see a low line, stay clear and call us on 0800 808 587. If you have private lines on your property that are sagging, you can contact our field teams at Otago Power Services Limited on 03 419 0111 who repair lines. Don't let a sagging line disrupt your power supply.

The OtagoNet Governing Committee

Alan Harper

Duncan Fea

Neil Boniface

The OJV Governing Committee is made up of Directors from The Power Company Limited and Electricity Invercargill Limited.

OJV contracts PowerNet to manage the electricity network assets on its behalf.

The committee's role includes determining policy, preparing a Business Plan and an Asset Management Plan, monitoring PowerNet's performance, reporting to the shareholders, and ensuring that OJV complies with all relevant legislation.

EIL (27.8%) THEPOWERCOMPANYLTD (72.2%) ← Owners

OtagoNet Governing Committee ← Governance

PowerNet Limited ← Management (Network Manager)

OPS OTAGO POWER SERVICES Owned by EIL (27.8%) and TPCL (72.2%) ← Contracting Company managed by PowerNet

New transformer doesn't hang around

Say what you like, but there's nothing more challenging than trying to get a 14.1 tonne transformer over 11kV lines.

However, it was a challenge accepted by Otago Power Services Limited and Titan Crane staff as the new 33kV transformer for the Clinton Substation got lifted over the 11kv lines adjacent to the site.

"We had to have a section of the line taken out of service while the lifting was done, as the old transformer had to be lifted out as well," PowerNet design engineer Lloyd Williamson says.

The shift, carried out in early June, required a traffic management plan for State Highway 1 while the crane work was done.

This job also required an extended shutdown as new poles and overhead 33kV bus work were put in place by Otago Power Services technicians and their line mechanics for the overhead pole work.

The 14.1 tonne transformer being lifted over the 11kV lines onto the Clinton Substation site

PowerNet's new building

It's not exactly a shift or a new building, but with our growing number of staff, we've had to take up larger quarters. PowerNet has swapped offices, but we remain at 92 Charlotte Street, Balclutha. We are now in the building next door, previously occupied by MWH and Otago Power Services Limited. All direct dial numbers remain the same, and all that's changed is the décor!

From the Network Manager

Please do not hesitate to contact us at any time if you have concerns or queries about your electricity supply, or if you are thinking about building and would like to plan for the supply of electricity.

Phone: 03 418 4950
Email: enquiries@otagonet.co.nz
Mail: P O Box 1586, Invercargill 9840
Website: wwwotagonet.co.nz

Terry Jones
PowerNet's OtagoNet Network Manager

OtagoNet CONNECTIONS

PowerNet Staff - Balclutha Office

Our increased capital and maintenance expenditure into the future will see OJV being a busy place to work. We welcome all the new members of staff into the PowerNet family.

Adrian Cross
IT Analyst

Andrew Body
GIS Technician

Brian O'Neill
GIS Project Manager

Carl Rathborne
Engineer

Chris Walker
Distribution Engineer

Debbie Taylor
Contracts and
Office Administrator

Garth Brown
Network Engineer

Helen Widdicombe
GIS Technician

Kristie Hanlon
Office Manager

Lloyd Williamson
Design Engineer

Mike Harris
Surveyor/Engineering
Assistant

Rajinda Senaratne
Electrical Engineer

Rosemary Johnson
Contracts Supervisor

Tara Unahi
Administration Clerk

Terry Jones
Network Manager

Wondimu Gebretsadek
Graduate Electrical
Engineer

If you have any concerns about our service please call us on 03 418 4950 and we will be pleased to help – we have a free internal complaints process. If we are unable to resolve your concern you can contact the free and independent Electricity and Gas Complaints Commissioner on 0800 22 33 40. www.egcomplaints.co.nz

PowerNet faults/interruptions, free phone 24/7 - 0800 808 587