

## About Electricity Invercargill Limited

Electricity Invercargill Limited (EIL) is consistently ranked as one of New Zealand's best performing network owners on key measures of reliability and efficiency.

The decades' long vision of our management and directors to install network assets underground means our network is one of the safest and most dependable.

Recent projects such as relocating substations and link boxes above ground also demonstrate our company's relentless commitment to providing a safe, efficient and reliable electricity supply to Invercargill city and Bluff.

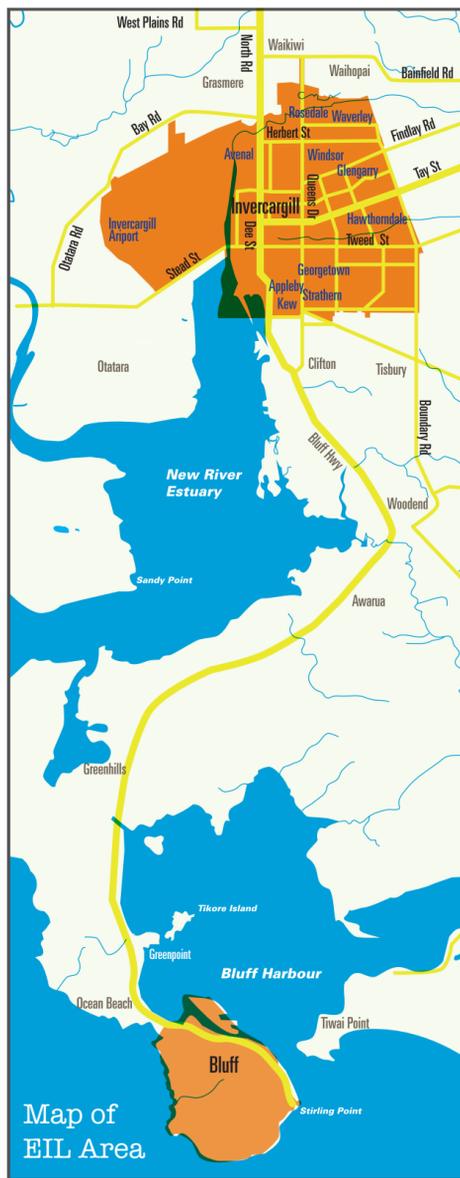
There is also innovation - the recent installation of the first public electric vehicle fast-charging station in Invercargill as well as last year's joint investment in wind generation sites and hydroelectricity through the Southern Generation Limited Partnership (SGLP).

Since 1905, EIL has provided power to Invercargill city under different names, most notably as the Invercargill Municipal Electricity Department. Solely owned by the Invercargill City Council through a subsidiary company, Invercargill City Holdings Limited, EIL was formed in 1991. EIL contracts PowerNet to manage, construct and maintain our network and metering assets.

EIL's directors are Tom Campbell (chair), Ross Smith, Sarah Brown, Karen Arnold and Joe O'Connell.

### Key Facts about EIL

- EIL owns electricity network assets in Invercargill city and the Bluff area.
- Its 17,362 customers are mostly residential.
- The Regulatory Value of its network assets is \$72 million, comprising over 670km of predominantly underground cables and overhead lines, and 449 distribution transformers with a capacity of 151MVA.



## Who is PowerNet?

Since 1994, PowerNet has led the way in electricity network management.

The company builds, maintains and manages networks on behalf of network owners in Southland, most of rural Otago, the Frankton region and Stewart Island.

The total Regulatory Value of the networks managed is \$546 million with 14,204kms of lines cables, 73 Zone substations and 15,848 transformers. These combined networks deliver electricity to over 68,700 customers. The networks PowerNet manages all have different features related to their topography, climate and population density. There can also be differences in their electricity equipment and technical design requirements.

The total energy conveyed through the PowerNet-managed networks is 1,494 GWh, with a maximum demand of 270MW.

PowerNet employs 267 staff who work from offices and depots in Invercargill, Winton, Lumsden, Frankton, Te Anau, Gore, Palmerston, Ranfurly, Balclutha and Stewart Island.

PowerNet also manages an on-site 24/7 faults call centre from its System Control based in Invercargill.

## Smart Investing Brings Benefits South

EIL has created key strategic investments beyond Invercargill city, and the benefits are flowing back to the south.

One example of these investments is EIL's partnership with The Power Company Limited and Pioneer Energy Limited as part of the Southern Generation Limited Partnership (SGLP).

In 2015, SGLP acquired the Mt Stuart and Flat Hill wind generation sites before purchasing the Aniwhenua Hydroelectric power station in 2016. Wind and hydro generation are clean, renewable energies that fit with EIL's strategies, including where possible the transition from fossil fuels to renewables.

EIL and The Power Company Limited jointly own 50 percent of SGLP through joint venture, Roaring Forties Energy Limited Partnership (RFELP), and Pioneer Energy Limited owns the remainder. The total value of SGLP is \$150 million, comprising wind generation assets worth \$30 million and \$120 million of hydroelectricity generation assets. The return on investment for RFELP makes this investment in distributed renewable energy generation a key strategic asset.



Southern Generation Limited Partnership structure

## Transport World Gets AED

Bill Richardson's Transport World is the latest community recipient of an automated external defibrillator (AED) donated by PowerNet on behalf of EIL.

The donation is part of a three-year sponsorship programme between PowerNet and St John that includes the annual gift of an AED on behalf of the EIL network.

Along with the AED donation, a Level 1 training session for Bill Richardson Transport staff is also funded.

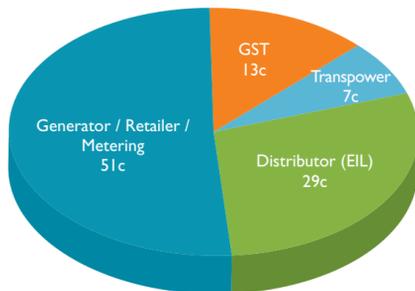


EIL director, Sarah Brown, presents Bill Richardson's Transport World executive director, Joc O'Donnell, with an AED on behalf of EIL. Also present are Robin Eustace, St John territory manager and Tim Brown, PowerNet chief information officer (right).

## EIL Network Statistics - as at 31 March 2016

Connected Consumers	17,362
Residential Consumers	15,268
Industrial Consumers	130
Commercial Consumers	1,964
Network Length	670km
Consumer Density	25.9 consumers/km
Number of Distribution Transformers	449
Maximum Demand	66MW
Total Energy Conveyed	280GWh
Regulatory Value	\$72 million

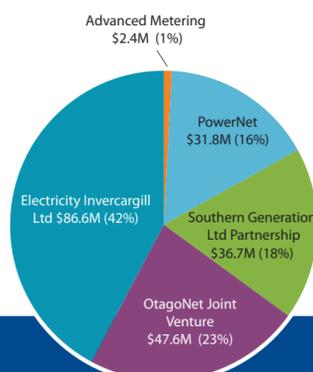
## Breakdown of your electricity dollar



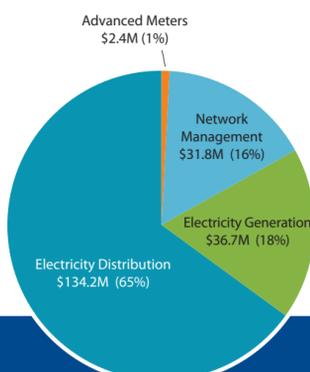
## Electricity Invercargill Limited – Asset Breakdown

The investment make-up by Asset Investment and Investment Type clearly illustrates EIL's strategy of diversification being achieved within the electricity sector. Historically, EIL's main investment has been in its electricity network. This now makes up 42 percent of the company's portfolio, with electricity distribution accounting for 65 percent. EIL has also diversified significantly into electricity generation (18 percent). Diversification is important to secure long-term, sustainable investment returns.

### Asset Investment \$205.1 million



### Investment Type \$205.1 million



## Safety First as Substations and Link Boxes Go Above Ground

A major project to shift Invercargill's aging underground substations and link boxes to locations above ground is making the city's electricity supply even safer and more reliable for consumers and staff.

Four substations have been relocated since the project kicked off in 2015 and 11 more will be relocated over the next two to three years.

The relocations boost the safety of the EIL network, as many of the existing underground substations are around 50 years old. Where needed, power capacity has also been upgraded.

### Link Boxes on the Move

Work continues in Invercargill to relocate aging, underground low voltage link boxes above ground.

EIL has a 400V link box network across Invercargill's CBD - these link boxes provide the connecting points that distribute electricity.

With a target to relocate two link boxes a month, work is well underway. Fifteen link boxes were relocated last year, leaving 41 underground link boxes to be replaced over the next two years.

"The above ground boxes are easier and safer for staff to work on," says PowerNet technical services manager, Trevor Simmonds.

"Shifting a link box sometimes involves an unscheduled switching outage of around 10 or 15 minutes while the link box is isolated and reinstated from the main substation," he says.

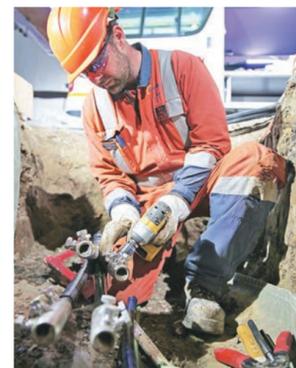
"Our technical field services team works with customers to minimise the impact of disruption to their power supply. This means we sometimes do the work outside business hours," Trevor says.

The major relocation project involves many hours of planning and preparing equipment, with the cable jointing work that reconnects the link boxes carried out over two to three nights.

The most challenging relocation to date has been shifting substation 510, situated directly outside the Kelvin Hotel's front door. The aging underground substation was installed when the Kelvin Hotel was built; its back wall was a hotel foundation wall. Completing the project meant finding a suitable location behind the Kelvin Hotel for the new above ground substation, negotiating with landowners, trenching and rerouting cables, removing redundant equipment and demolishing the old substation structure - all while maintaining power supply to CBD businesses and foot traffic access to the hotel. As part of the project, a new 1000kVA transformer was installed.

Other substations already shifted include substation 519 on the corner of Deveron and Don Streets and substation 614 on upper Herbert Street. Substation 519 was merged with an existing above ground substation, 521, on Don Street to create one new substation located on Deveron Street.

Next up for relocation are substations 511 on Dee Street and substation 529 in lower Esk Street. These two substations will be combined into one.



PowerNet substation maintainer, Jason Nicolson, working on decommissioning underground link boxes and relocating them above ground.

## Charging into the Future

Invercargill's first public electric vehicle (EV) fast-charging station was installed earlier this year, highlighting PowerNet's commitment to promoting sustainable energy.

The charging station at 116 Esk Street is part of a joint project between PowerNet and Auckland-based Charge Net NZ, a nationwide electric vehicle charging network.

EVs are becoming an increasingly viable and attractive option for everyday road users. More New Zealand businesses are making the shift to 100 percent electric or plug-in electric hybrids.

"While EVs can be charged at home or at a workplace, a reliable and public fast-charging infrastructure is essential for growing New Zealand's electric fleet," says PowerNet's chief information officer, Tim Brown.

The fast-charging unit provides an 80 percent charge for a vehicle in 10 to 25 minutes through a plug-in DC charger. The fast-charger network is accessed via a radio-frequency identification card, that drivers activate by tapping it against the charging unit or via a smartphone App.

## We're Just a Phone Call Away

We're always working to improve the reliability of the EIL network. This means far fewer power outages - but occasionally they still happen.

The 0800 number puts you directly in touch with PowerNet's System Control which has immediate access to our line staff working out in the community. System Control operates 24 hours a day, 7 days a week.

System Control is happy to talk directly to network customers when a power outage happens, so there's no need to contact the electricity retailer. The faster that System Control gets accurate information when there's a power outage, the quicker we'll get the power back on.

## Power Issues?

Call on **0800 808 587**

