



COMPANY INTRODUCTION

charge.net.nz

Electric Vehicle Charging Network

The Company

Founded by Steve West as CEO and cornerstone investor, Charge Net NZ is committed to installing a nationwide network of Electric Vehicle DC Fast Charging stations throughout New Zealand. The primary goal of the enterprise is to promote and accelerate the uptake of electric vehicles in New Zealand. Additionally, electric vehicles are an avenue to energy independence and a cleaner, greener New Zealand..

The Network

A nation-wide network of 100 Fast DC charging stations is planned for installation over the next 3 years in a phased rollout. Installations will initially be in areas of high population density and also in support of key fleet users such as local authorities and car share businesses. In addition to the areas of highest population density and EV ownership, the rollout is targeting the most highly trafficked routes between towns and cities.

These differing needs compete, such that there is no predetermined order of deployment. In practice, the order of installation is determined by the level of support in any given area. This support can be from the local distribution company, local EV owners, or perhaps because a location is strategically important to enable a popular route.

The spacing of stations is optimised so that an EV with a 120km range can reliably reach the next station with an 80% charge, and DC Charging stations are most efficient charging to this level.

There are a certain criteria to qualify each charger location. These include:

- 24 / 7 accessible parking space
- Close to Distribution Transformer with sufficient capacity
- Other facilities close by eg. food, restrooms etc
- Possibility to expand to more parking spaces later
- Supportive host, local government etc

The Charge Net NZ Goal

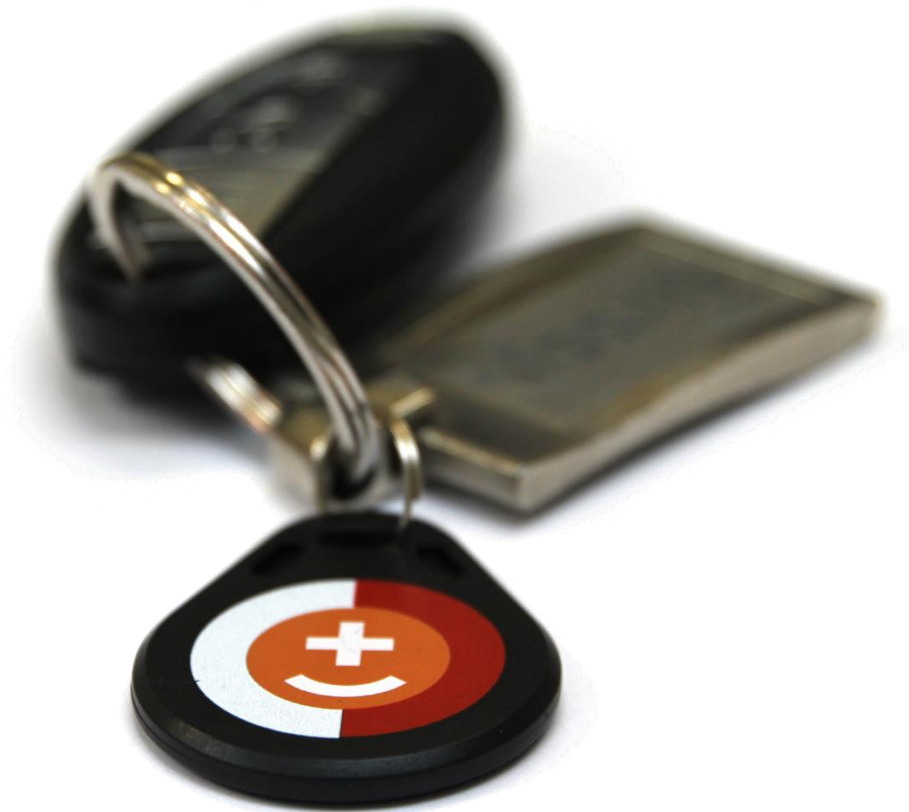
New Zealand is the perfect market for Electric Vehicles:

- Electricity is generated from 80% renewable resources
- Off street parking is almost universal
- Fossil fuels are imported, retail cost is high
- Average daily commute is low (30-40km)
- EVs are ¼ the cost per kilometer to fuel

However, potential EV customers are scared off by perceived limitations:

- How to drive long distance?
- What if I forget to charge overnight?
- What if I have to make unexpected trips during the day?

Charge Net NZ was founded with the goal of removing these objections, thereby increasing the uptake of Electric Vehicles in New Zealand. Our solution is to provide Fast DC charging stations in cities and towns, and along all major highway networks.



Our Offering

In short, Charge Net NZ offers partners the opportunity to host an Electric Vehicle Fast Charge station at no cost.



Who pays?

Charge Net NZ typically meets all costs for the equipment, installation, car park marking and ongoing expenses such as electricity, maintenance and mobile communication costs.

The unit has its own meter and power connection to the nearest power lines or transformer.

To recover capital and operating costs we bill drivers for the use of the station, charging for the electricity use (25c/kWh) and time on the machine (25c/min). A charging session would generally cost the driver less than \$10. Users sign up to Charge Net Payment and register a credit card. Usage is billed monthly and there are no other fees. The most convenient way to activate a station is via an RFID key fob but users can alternatively activate a charge session using the "PlugShare" smartphone app, via txt message, via the Charge Net website, or even remotely started by calling our 0800 help line.

Hosting

We view the relationship with the hosts as mutually beneficial. The charge station will attract EV drivers to the location and in return the host business is seen to be providing an essential service to the Electric Vehicle community, at no cost to themselves and with very little inconvenience.

Typically our hosts have recognised the benefit of the unit and have provided the location either free of charge or at some very nominal cost (i.e. \$2 per annum).

The units suit short stay business models such as cafés, mini market etc. Occupation of the parking space for long periods of time is not envisaged to be a problem as it can be with EV slow charging installations. A typical fast DC charge would be only 15-25min duration.

The Stations

Charge Net NZ have selected the Veefil from Tritium in Australia. It is dual headed, supporting both the Japanese CHAdeMO standard and the newer Type-1 CCS standard. It has a compact footprint (700mm x 330mm) allowing for easy installation behind existing car parks.



At 165kg it is one of the lightest units available, reducing installation complexity and allowing for easy relocation if necessary. Despite its size and weight, it is rated to deliver 50kW continuous DC output. At full power it requires 55kVA of transformer capacity (ie 80A @ 400V). The unit is 2m tall and 0.7m wide (about the size of a door) and approximately 300mm thick. As can be seen in the image (Kaiwaka, north of Auckland), they are relatively attractive units:



Maintenance and Service

Charge Net NZ operates a 24/7 Helpline 0800 2 CHARGE (0800 224 274). Customer queries and operational issues are handled through this contact number.

The units have heavy duty plastic covers over a substantial aluminium chassis. Should the shells be damaged or defaced they can be quickly and easily replaced and repaired offsite. If the unit is subject to more severe damage (car impact for instance) the units can be replaced entirely in a reasonable short timeframe as the installation is very simple.

The units are very low maintenance in service and will generally only require periodic checking of the radiator panel to remove debris and dust build up. The operation of the units is continually monitored via GSM data connection and most faults can be addressed remotely. In rare circumstances it will be necessary to restart the units which will require a site visit by a Charge Net representative.

All maintenance management and costs are met by Charge Net as operational expenses.

Liability

Charge Net NZ maintains insurance policies covering damage and third party liability on a station by station basis.

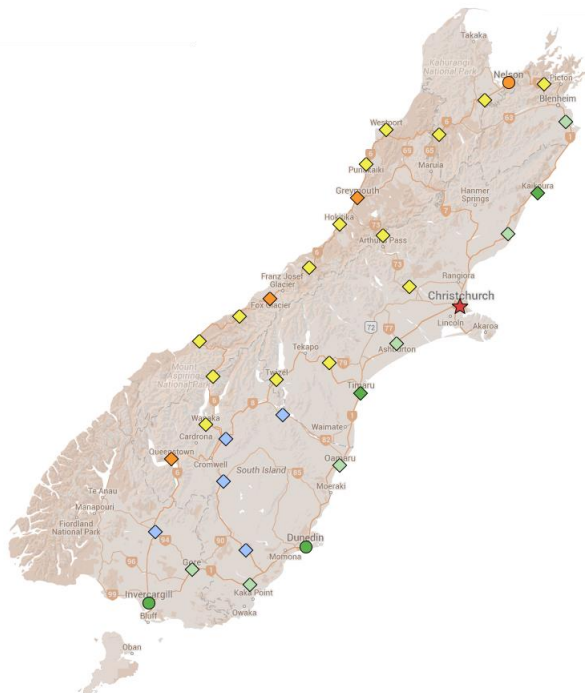
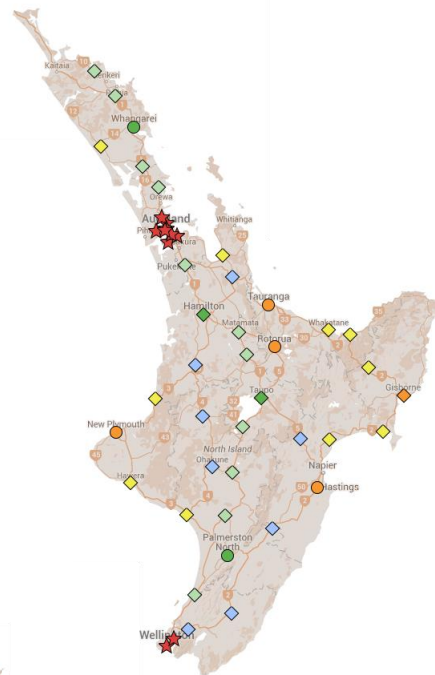
- Coverage for total loss of charge unit.

- \$5M public liability insurance

Deployment Map

In this map we disclose the planned locations of the charging stations. Diamonds indicate towns whereas Circles indicate cities (pop > 50k). The colours indicate the priority of a route, in order of importance from green, blue, then yellow. Darker shaded locations indicate a hypothetical spacing required for a later generation EV with a much greater range. These would be most suitable for multiple bays / next generation high power stations.

<https://charge.net.nz/charging-map/>



Management Team

An experienced team of business people and enthusiastic Electric Vehicle supporters has been brought together to ensure the Charge Net NZ is a lean but highly efficient business.



Steve West, CEO and Founder

Steve's fascination with Electric Vehicles began as a child, inspired by books painting a future of elegantly simple and efficient personal transportation. Charge.Net.NZ is borne of Steve's frustration at waiting for that future to arrive in New Zealand. He owns three Teslas in New Zealand, P85+, P85D and the only Tesla Roadster.



Nick Smith, Operations

Nick has made a successful career of mechanical design engineering, specializing in consulting to the New Zealand manufacturing sector. In his spare time he is converting a Mazda MX5 to AC electric drive.



Tom Parker, IT Systems

Whether it's reverse engineering a communications protocol, designing a database schema, building secure software or programming a microcontroller, Tom is comfortable negotiating IT systems from the highest overview down to the bit level.



Carl Barlev, board member

Carl is an Electrical Engineer with a strong passion for Sustainability. His career in the power industry started in New Zealand in 2004 before moving to Norway shortly thereafter. In 2013 he took a role with Tesla Motors' managing the installation of Norway's first supercharger stations, and later he continued with Tesla helping with their European expansion into 2014.



Mark Yates, board member

As New Zealand's longest established supplier of EV charging equipment, Mark has taken JuicePoint from strength to strength. In addition he is involved in Wind Farming and Electricity Retailing.

Partners

To improve the efficiency of site selection, we have partnered with nationwide retail chains to host the stations in the most suitable locations to match a 15 – 25 minute charge time. Currently these partners are:

- [Foodstuffs North Island](#)
 - o New World - 99 stores
 - o Pak'n Save – 42 store
 - o Four Square – 203 owner operated locations
- [Z Energy](#)
 - o Fuel retailer, \$2.64B market cap
 - o 200 Service stations
 - o 90 Truck stops
- [BMW NZ](#)
 - o Linked to the Charge Now network
 - o Charging locations 'pushed' to in-car navigation system

Web

www.charge.net.nz

www.facebook.com/charge.net.nz/

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