

Innovation in electricity retailing for EVs in New Zealand

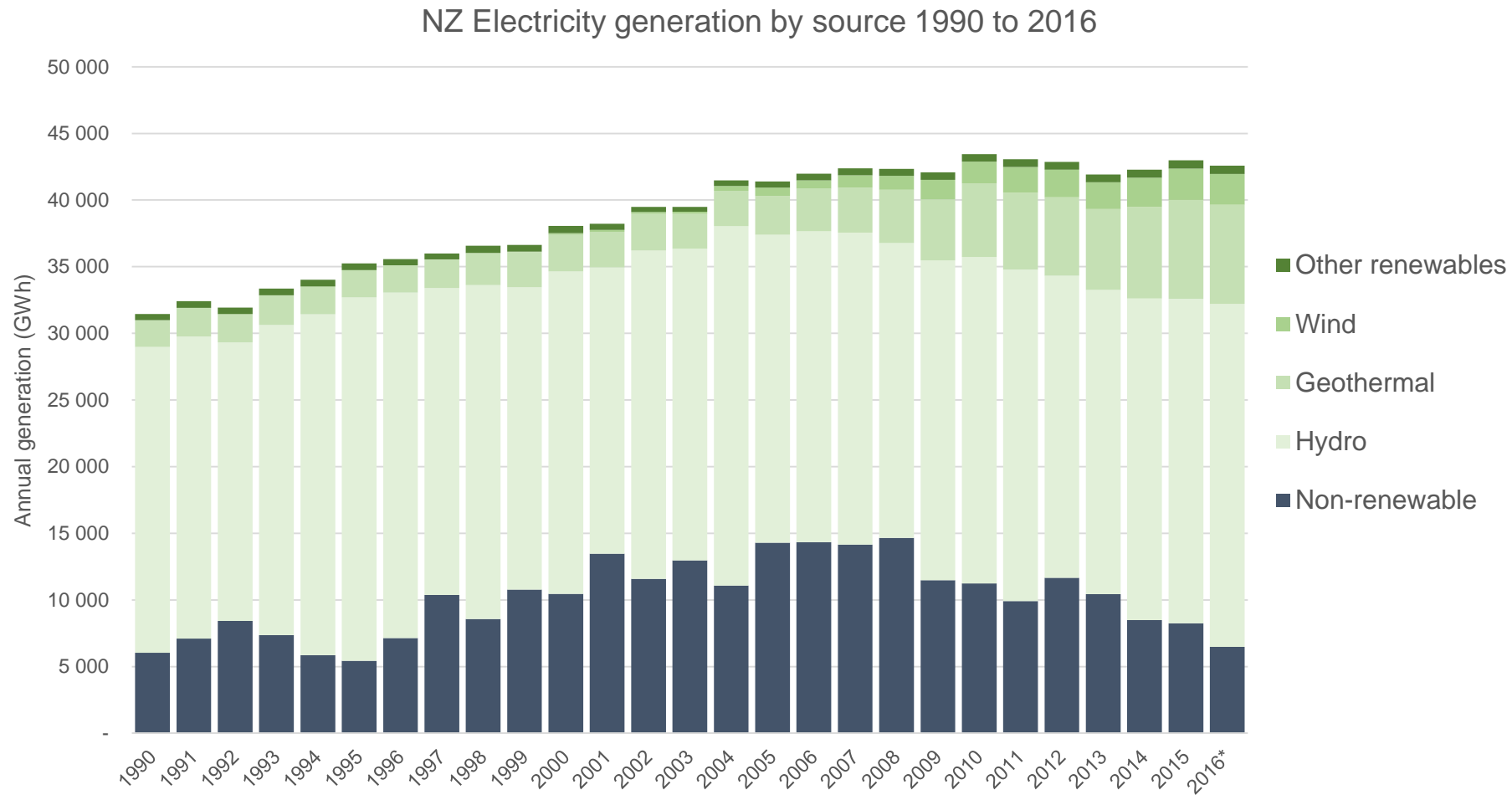
Elizabeth Yeaman, Energy Efficiency and Conservation Authority, New Zealand
Nordic EV Summit, Oslo, Norway, February 2017

About New Zealand

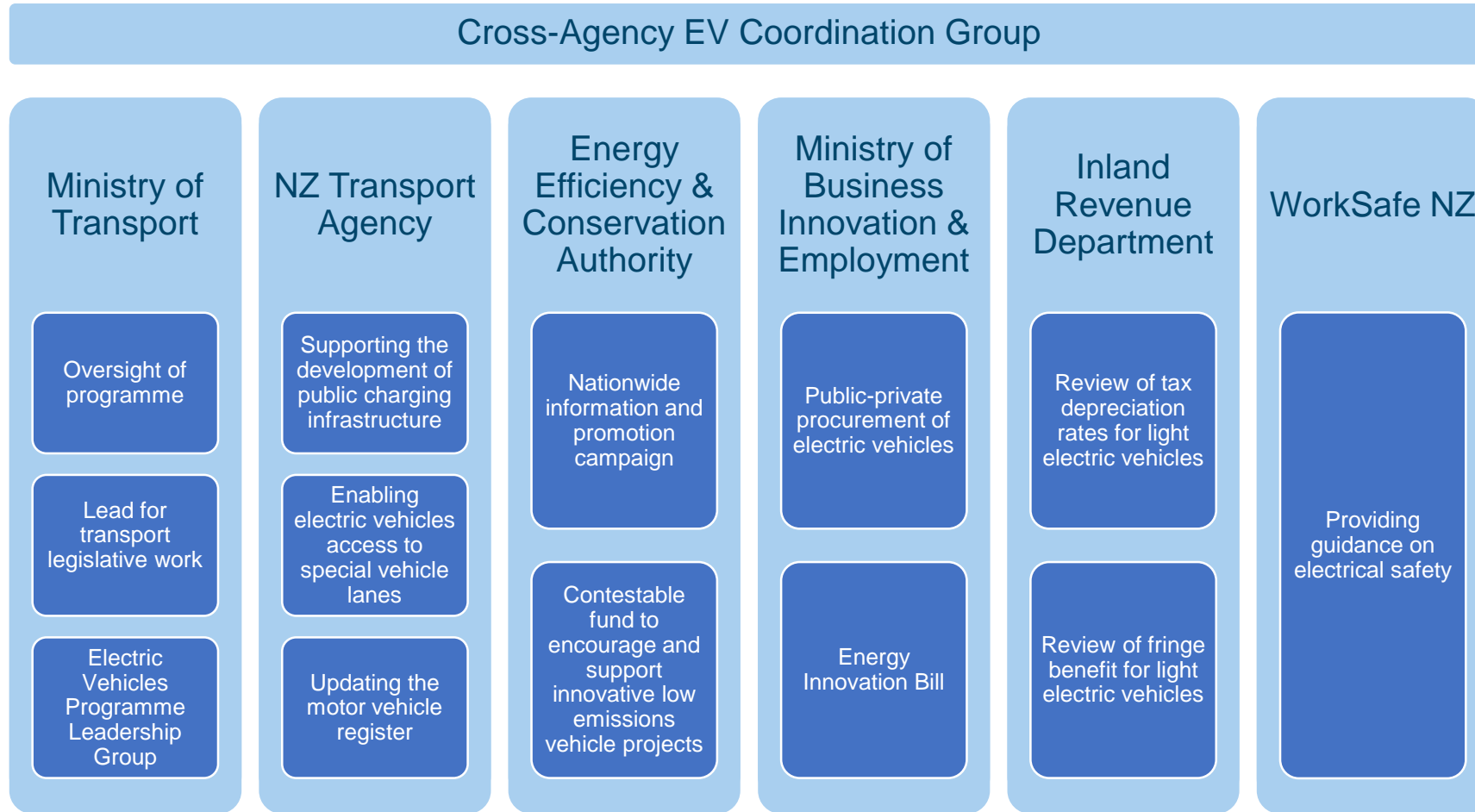
- Population 4.7 million
- 3.5 million light vehicles
- Right hand drive
- Accept vehicles to four international standards: EU, Japan, Australia, USA
- 55% of new entrants to the national fleet are used imports
- 85% of homes have off-street parking



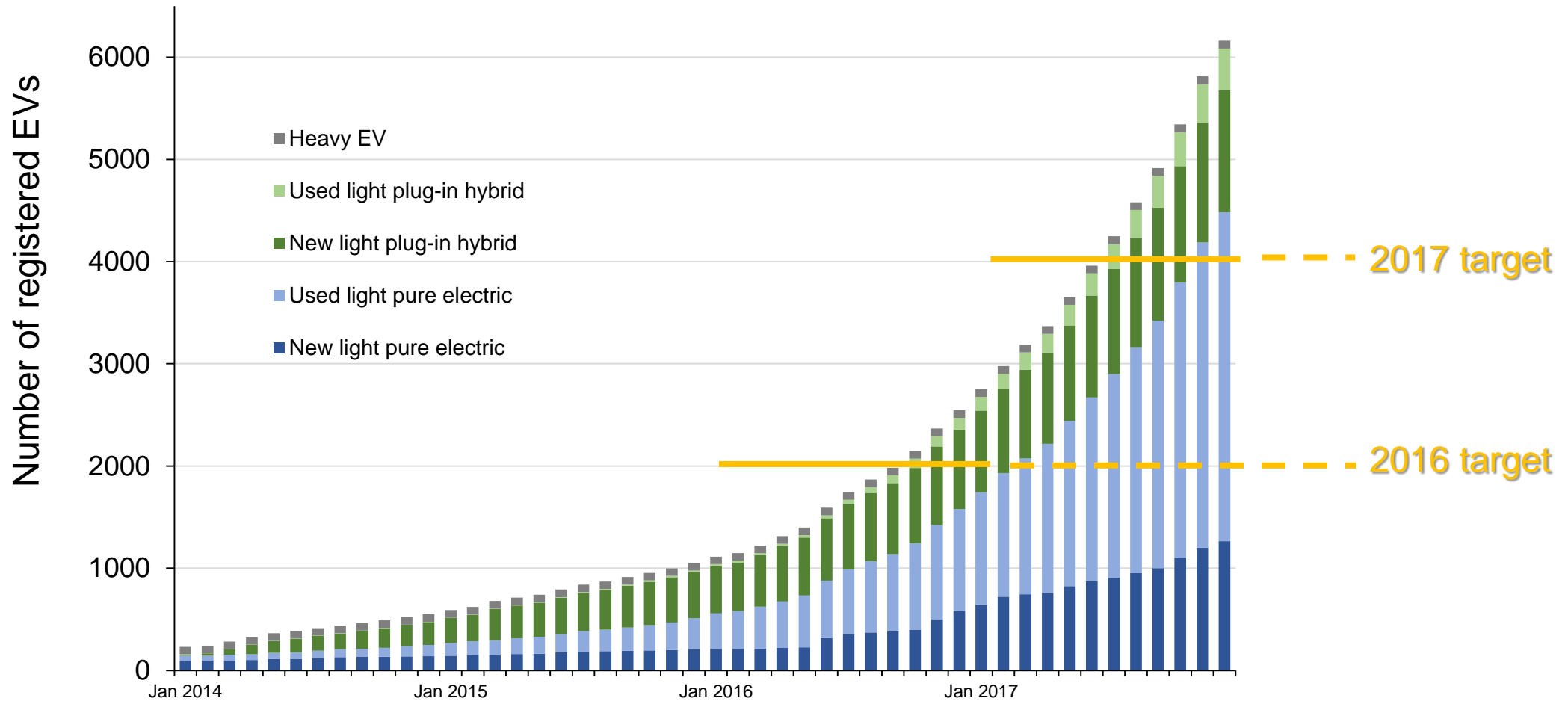
85% of NZ electricity generation is now renewable



The Government's EV Programme



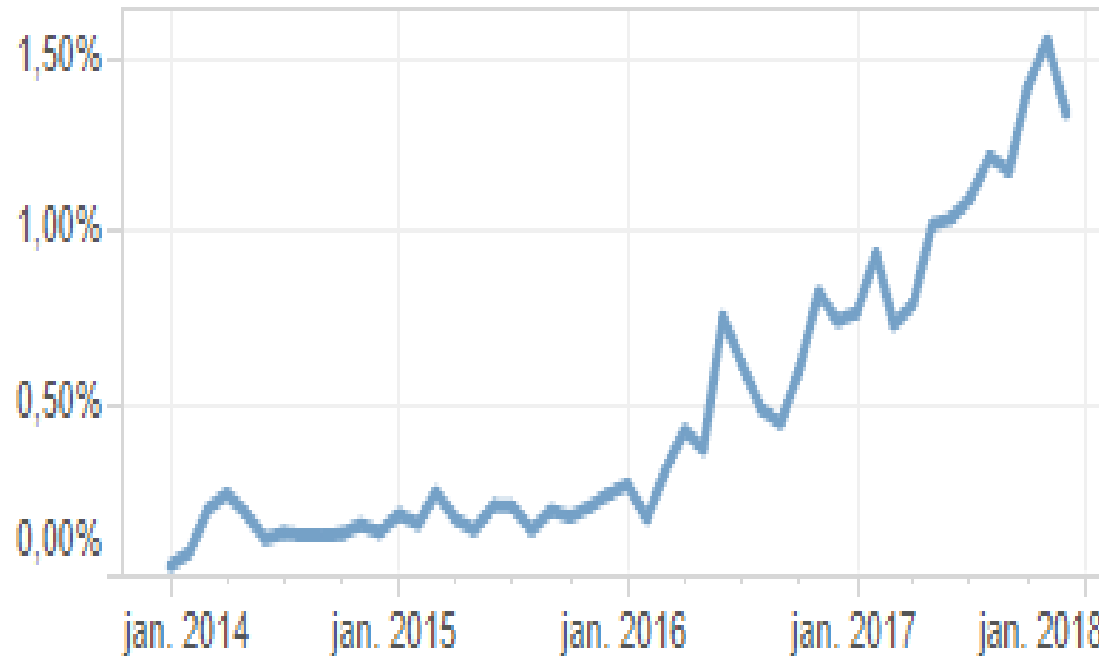
New Zealand's EV target: 2x EVs every year to 2021



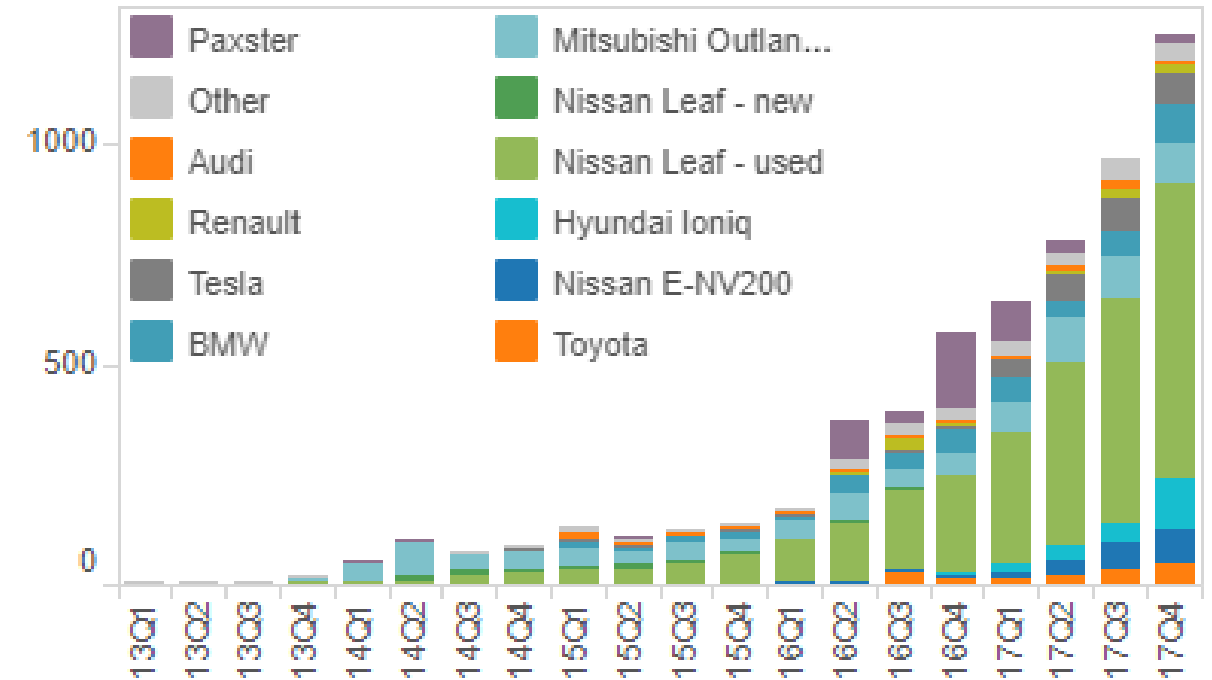
<http://www.transport.govt.nz/research/newzealandvehiclefleetstatistics/monthly-electric-and-hybrid-light-vehicle-registrations-dec-2016/>

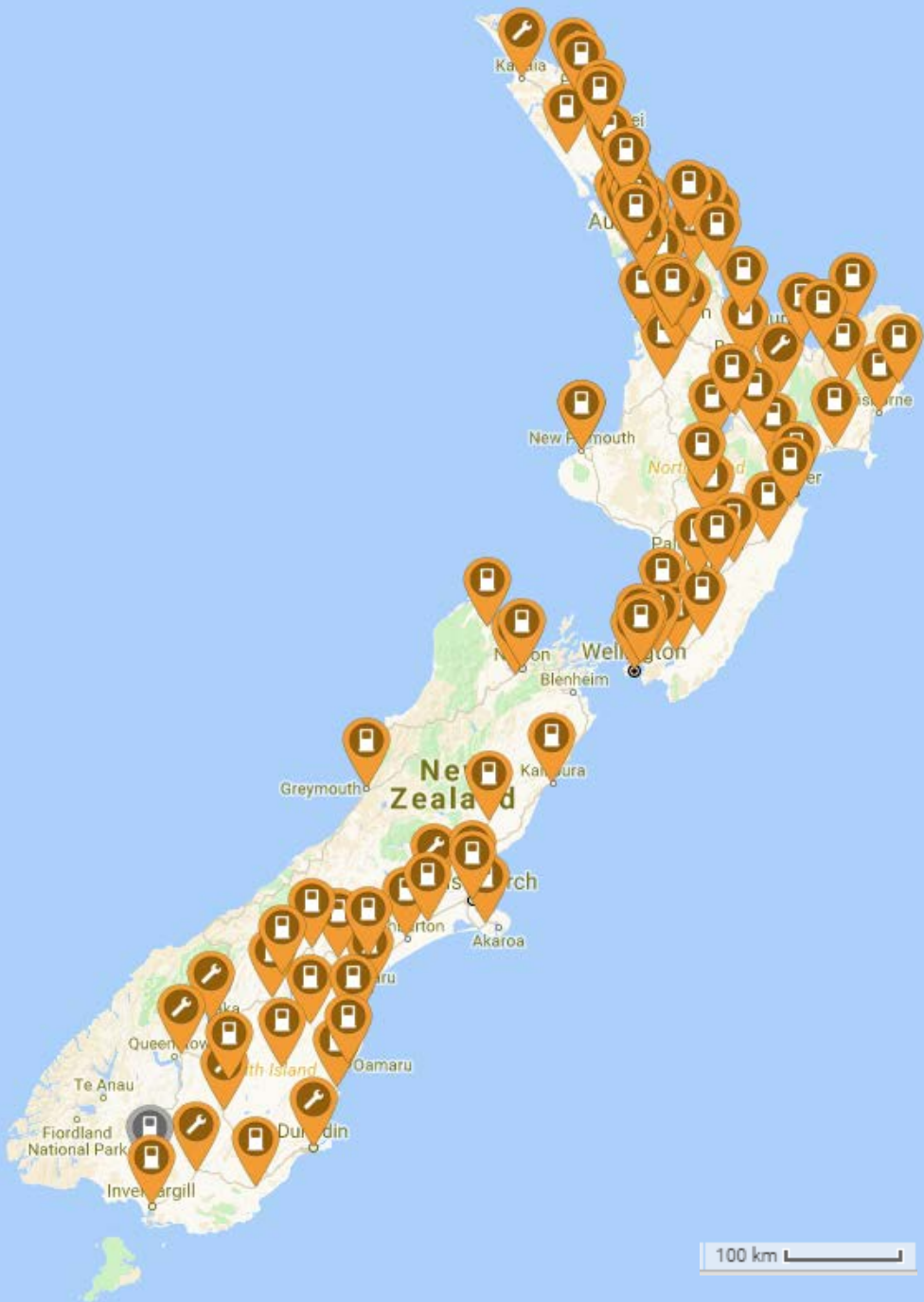
1.5% EV market share with no purchase subsidies

EV % of light registrations



Quarterly light EV registrations - main makes and models





**EV fast
charging
infrastructure
rapidly
expanding**

Road User Charges exemption for EVs

Petrol vehicles pay fuel excise, all other vehicles pay RUC for each km driven

Light vehicles: Light EVs (eg cars and vans) are exempt from RUC until 2021

Heavy vehicles: Heavy EVs are exempt from RUC until they make up 2% of the heavy vehicle fleet

Vehicle	Definition	RUC rate (GST incl)	Example annual distance	Example RUC exemption saving
Light vehicle	Under 3.5 tonnes	NZ\$62 / 1,000 km	15,000 km	NZ\$ 930 / year
Small delivery truck	Under 6 tonnes, dual rear wheels	NZ\$66 / 1,000 km	30,000 km	NZ\$1,980 / year
Medium freight truck	12 – 18 tonnes, 3 axle	NZ\$292 / 1,000 km	75,000 km	NZ\$21,900 / year

Low Emission Vehicles Contestable Fund

Funding of up to \$6 million per year to co-fund innovative projects

Rounds 1,2 and 3 significantly oversubscribed

Round 4 expected to open Q1 2018

Foreign companies can be partners in a project, but bid must be led by NZ organisation

<https://www.eeca.govt.nz/funding-and-support/electric-vehicles->

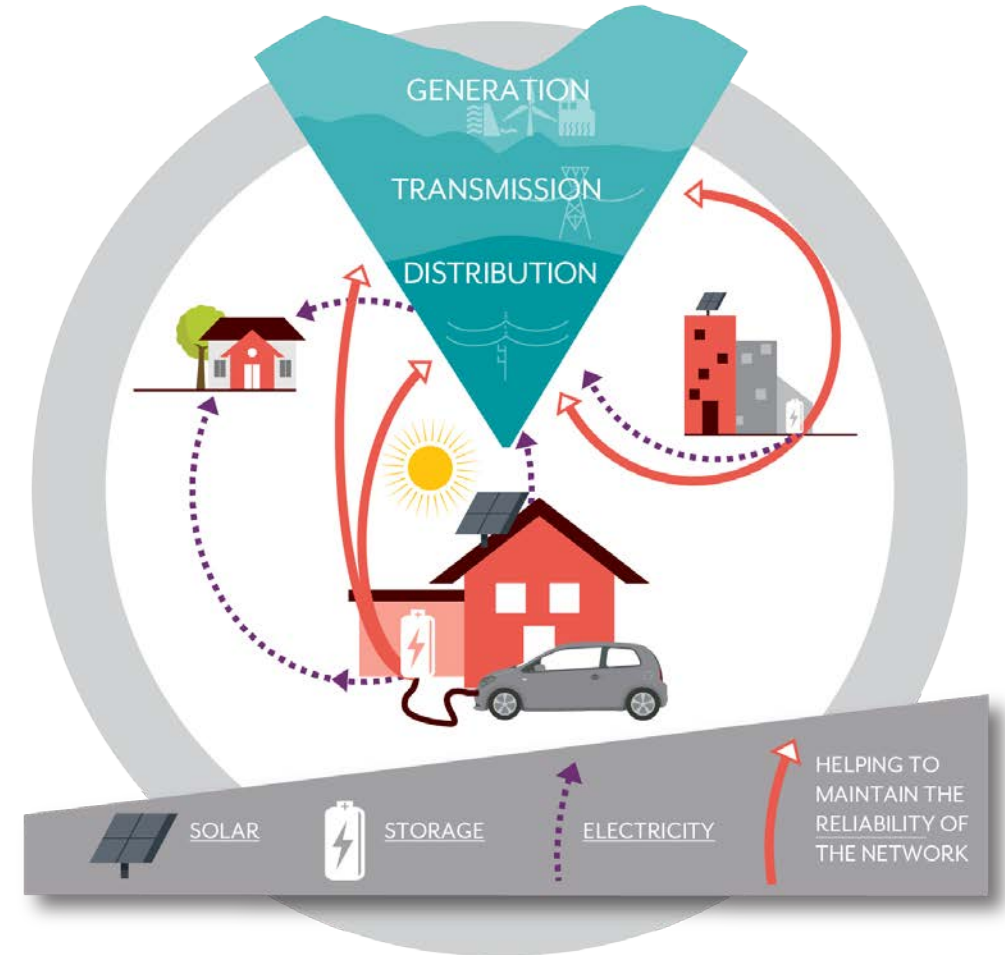


Examples of projects funded so far



NZ's innovative electricity market

- Open, competitive, permissive electricity market
- Half-hourly spot market with wide diurnal and seasonal variations
- Markets for frequency keeping, voltage support, black start and demand response; hedge market
- 80%+ voluntary smart meter uptake
- 37 electricity retailers compete, setting their own pricing; annual switching rate over 20%
- 8 major generators, 650 small generators + PV



Some electricity retailers offer tariffs for EV owners



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Electric Car Plan

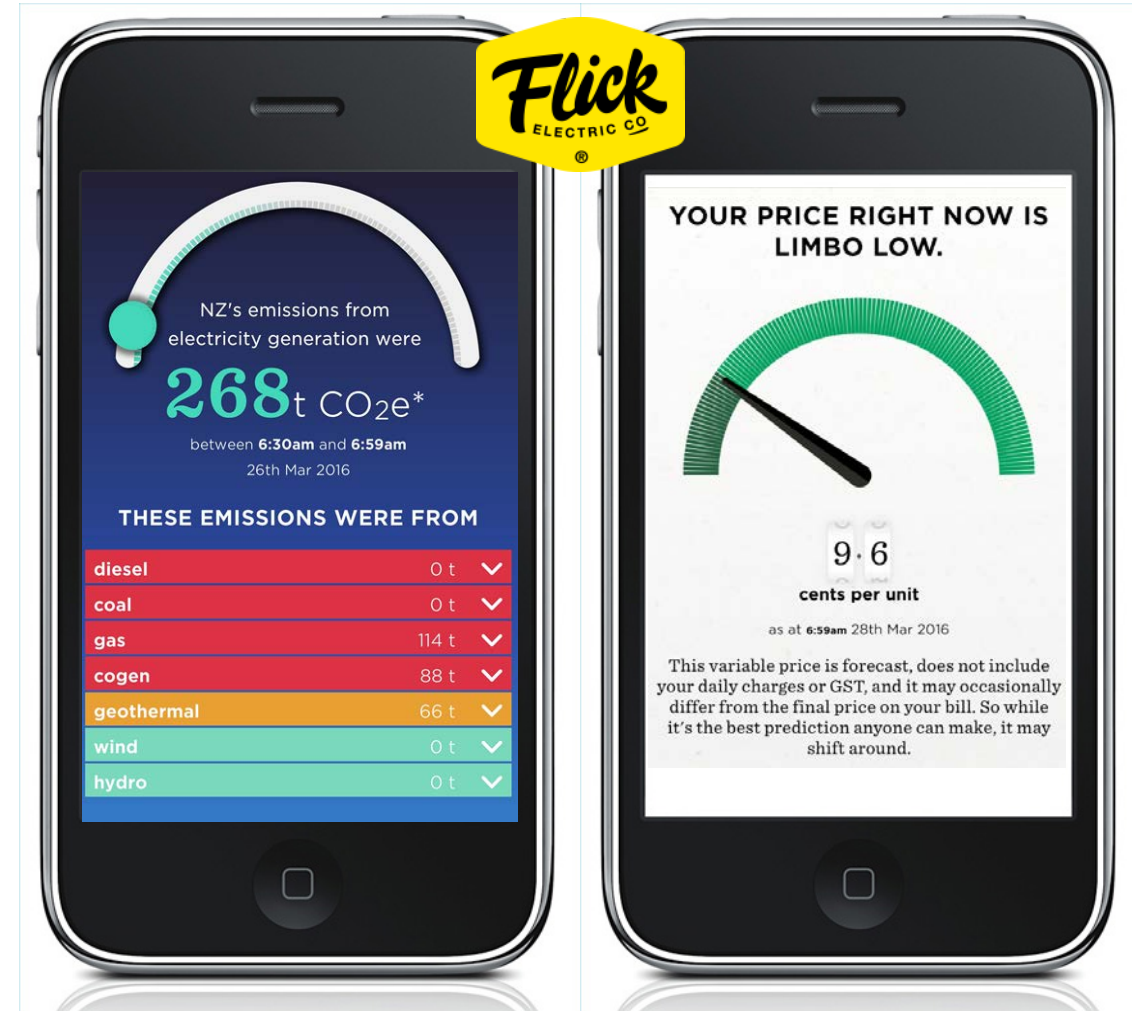
You've shopped around, and got yourself a shiny new electric car. Now, all you need is the right power plan to fill it up. You can power your electric car for less, with one of the sharpest EV plans in the market.

[SIGN UP NOW](#)



Innovation in retail electricity pricing - Flick

- Flick offers half-hourly spot market pricing to residential customers, plus fixed margin
- Customers set phones to receive an alert when prices or CO₂ emissions are low or high
- EV owners can use alerts to know when to start or stop charging
- Flick was 2017 Energy Retailer of the year, based on growth and consumer satisfaction rating



Innovation in retail electricity pricing – free Hour of Power

- Retailer Electric Kiwi offers customers a free “hour of power” every day
- Customers nominate a set hour during an off-peak period
- Flat rate outside this hour

How do I save the most using my Hour of Power?

Go ahead and change your Hour of Power every day. Choose your time slot where you will use the most power to watch your savings grow. Here's a few pointers:



Get a timer

Set and forget to save every day!



Run your washing machine

Simply start your machine in your Hour of Power and the clean clothes are on us.



Run your dishwasher

It's easy, just set a timer or turn on the Dishwasher in your daily Hour of Power.



Set a reminder

Set a reminder for your daily Hour of Power to help you save even more.



Dry your clothes

Dry your clothes and bedding for free.



Take a shower

Take a shower 5 mins before your Hour of Power and let us heat up your hot water for you.



Cook a roast

Sunday roast anyone? May as well as its on us but not just for Sundays!



Charge your car

Your very own home charging station, best part is it's on us!

Other innovations for the NZ electricity market

Electricity Authority is working to:

- Make it easier to transact with multiple parties e.g. sell solar surplus peer-to-peer and buy off one or more retailers
- Explore how households and can by-pass retailers by buying and settling in the spot market directly
- Reform transmission and distribution pricing to support new technology

An advertisement for SolarShare, a peer-to-peer energy provider in New Zealand. The ad features a bright yellow background. At the top, a teal banner contains the 'P2' logo (a diamond shape made of smaller diamonds) and the text 'New Zealand's only peer to peer energy provider'. Below this, the 'SolarShare' logo is prominently displayed in bold black font, with 'TM' and the tagline 'Peer to peer power' underneath. To the right, a white polar bear is shown in profile, looking towards the left. The main text of the ad reads 'Join the Solar Revolution with or without the panels!' in a large, black, sans-serif font.

P2 New Zealand's only peer to peer energy provider

SolarShareTM
Peer to peer power

Join the Solar Revolution with or without the panels!

Initial V2G trials

- New Zealand's largest electricity distributor, Vector, has V2G trial underway in Auckland
- Vector also installed Asia Pacific's first grid scale battery: 1 MW Tesla Powerpack in suburban Auckland in 2016



Summary

- 85% renewable electricity generation
- EVs currently 1.5% market share with no purchase price subsidies
- 136% growth in EV sales in 2017
- Easiest place in the world to become an electricity retailer
- Pricing innovation can get the most out of V2G
- NZ\$6 million/year fund for innovative EV projects



www.electricvehicles.govt.nz

New Zealand Government