



## Kona EV launches with sub \$75k price tag

As this issue of *EVtalk* goes to press the electric version of Hyundai's Kona will be launched to the media with a drive from Auckland to Raglan and return without a charge - something no new EV in the country other than a Tesla can yet achieve.

**Hyundai is bullish on its intentions towards the EV market, and having found success with its Ioniq range, is claiming with the launch of the Kona it is "leading the charge" amongst distributors.**

It is calling the Kona the first compact e-SUV.

"The Kona Electric cleverly blends ground-breaking electric vehicle technology with New Zealand's favourite body style, the SUV," Hyundai New

Zealand general manager **Andy Sinclair** says. "We are excited to launch a true zero-emission electric driving option which doesn't compromise on the design, style and space that sets Kona apart from the crowd."

The question everyone has been asking since the Kona was confirmed for NZ and shown at Fieldays, is how much? The answer is \$73,990 for the standard model, and \$79,990 for the Elite version.

This will be for the extended range 64kWh version of Kona Electric with a realistic "real world" driving range of over 400km on a single charge. The battery can be charged from empty to 80% in just 75 minutes using a DC rapid charger.

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## Factory fix for Nissan Leaf 30kWh LBC

The official Nissan Leaf 30kWh software upgrade to reprogram its lithium-ion battery controller (LBC) will cost owners \$115.

**The service cost of \$100 plus GST is confirmed by Nissan New Zealand, now available through Leaf certified Nissan dealers.**

The factory fix is designed to provide an accurate representation of capacity and range in LBCs which have previously given faulty readings, Nissan says.

The upgrade cost is at the owner's expense because the 30kWh Leaf was not imported into New Zealand or sold by Nissan New Zealand, Nissan NZ managing director **John Manley** says.

"It's not a recall because we don't support used import vehicles so there's no warranty provided on these cars."

**Manley says the upgrade was first provided in the US, then the United Kingdom, but was only available in Japan recently.**

"The software is different for Japan than the UK, so we had to wait until Japan launched it," he says. "They are separate software upgrades so we had to make sure we had them both."

Nissan New Zealand's move is welcomed by GVI Electric general manager **Hayden Johnston**.

GVI Electric is offering a fix for

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# Door ajar for used EV imports to Australia

The door is being opened to allow some used imported electric vehicles and hybrids into Australia.

That might also pave the way for New Zealand dealers to become involved.

Changes to the Specialist and Enthusiast Vehicles Scheme (SEVS) will allow importation of new and used EVs that are not already brought to Australia by established brands, subject to certain criteria.

**One of those criteria includes allowances for bringing in more energy efficient drivetrains, that is EVs and hybrids.**

SEVS can be assessed only by build date; not clashing with sell dates in Australia, Australian Imported Motor Vehicle Industry Association (AIMVIA) vice-president **Kristian Appelt** says.

"Discussions we're having are to push for 'Environmental Vehicles' under the SEVS criteria, based on emissions – hybrids, EVs, plug-ins, fuel cell vehicles. Because of the price of new EVs being high, you won't get a high uptake."

**Appelt says to get EVs into the market quickly a price tag around A\$25,000 to A\$30,000 is needed.**

He says A\$25,000 would get a nice Nissan Leaf with a 30kWh battery, while he expects the new Nissan Leaf – due next year – could be in the high A\$40,000s.

The Leaf qualifies under the current SEVS (June 1, 2013 to September 2017, after Nissan stopped selling them in Australia) and the same build dates will qualify under the new SEVS as proposed.

**Appelt believes many importers will have a mix of EVs and hybrids available, alongside new EV dealers.**

He describes EV availability in Australia as "horrendous".

"What is available brand new from a dealership to the average consumer who isn't an EV enthusiast is either incredibly expensive and almost unattainable, or is effectively only available to fleets through lease programmes."

"We're telling government that EVs and their inherent benefits are too important to not allow us to import

them – and if consumers want an EV we should be allowed to sell them one.

The SEVS criteria for more energy efficient drivetrains is "the exciting part for us", says Electric Vehicle Council

Australia chief executive officer **Behyad Jafari**, due to speak on August 10 at the EVworld NZ event in Auckland.

However, just because a vehicle is on the list doesn't guarantee it will get into Australia.

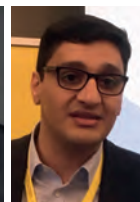
**Any nominated vehicles will have to go through a process to meet certification and regulations before being allowed in, including having been on the international market a minimum three months.**

For that reason – and the fact some imported vehicles are already in Australia – Jafari doubts it will lead to sudden vehicle price rises.

Jafari also says it's unlikely to cause intensified competition in markets like Japan and the United Kingdom for vehicles. ■



Kristian Appelt



Behyad Jafari

## Welcome to our newest sponsor

Autohub is the latest to join *EVtalk's* list of foundation sponsors (see P2).

**Autohub has been proudly supporting the used vehicle import industry for more than 12 years.**

"We are well aware of the constant state of evolution within the industry, with consumer demands and ever-changing global priorities," Autohub chief executive officer **Frank Willett** says.

"We are confident that electric vehicle volumes entering our fleet will increase rapidly over time as consumer awareness and confidence grows in this new technology.

"And as we are in the business of shipping vehicles, we

will continue to support this growing uptake of environmentally friendly and practical mode of transportation."

Autohub takes care of every facet of the export/import processes, wherever possible. The business offers a single source, fixed price, discounted and comprehensive service package.

The company has a "make it simple" policy. A team of experienced staff in New Zealand, Australia, Japan, Singapore and the United Kingdom is used to provide that dependable service.

Staff have very long association with the automotive industry, many previously serving as motor vehicle dealers.

"So we understand your



The Autohub team.

requirements, and bring this experience into the world of shipping," Autohub says

**A range of extra benefits such as special foreign currency rates, online services and finance are provided to support regular motor trade customers and registered traders.**

Willett says Autohub is

proud to be a foundation sponsor for *EVtalk* and firmly believes it will be the leading source of information to vehicle importers, Government and supporting industry players, as EVs become more prevalent in the New Zealand fleet.

Visit [www.autohub.co](http://www.autohub.co) for more information. ■





# Getting back to green - EV camping

When two young French women came to *EVtalk* looking to get their message out to the electric community that they wanted assistance to travel New Zealand using electric vehicles, who would have thought the project would go so far - pun intended.

Kiwi tourism icon Jucy already had an electric camper project in the works, and on seeing the story on our website put two and two together - **Héloïse de Bokay** and **Solène Trinquet** were given the Nissan e-NV200-based vehicle to do 13,000km around the country. As they have said many times, that is not easy when your vehicle does only 100km on one charge.

If they can do it, surely so can we. Jucy handed us the keys to the camper ahead of it appearing on our stand at EVworld, so despite it being the middle of winter we ran with it and headed north.

**'Why north? For one, part of EVtalk is produced out of Magical Mangawhai, and two, the region was quick to adapt to the EV future and has a surprisingly extensive network of infrastructure.'**

Gaps between chargers heading north of Auckland barely exceed 60km - and stretch as far north as Kaitiaki. Another is planned for Waitiki Landing to make Cape Reinga accessible.

Most of the chargers are part of the Crimson Coast EV Highway and allow you to do both coasts in even a modest

range EV - probably the nicest way to describe the Jucy vehicle.

We drove in ECO mode for most of the trip and stuck to 90km/h unless we could get a downhill run. Even in this mode performance is sufficient out of it the van feels more sprightly than the 80kW and 253Nm power, and torque outputs would suggest.

The steering is soft but needs few turns for tight manoeuvres, while the ride is comfortable and brakes excellent. The roof-mounted tent does not seem to influence the handling much.

An eNV200 will normally travel around 100 to 120km, but with a substantial interior fit out and 'Penthouse' bed on top, 100km is your absolute max - 80-90km is more

realistic.

**This is compounded by the slowdown of charging over 80%. Still, we got around with relative ease. Auckland central to Mangawhai Heads - where we could charge to full overnight, then to Whangarei for a charge on the edge of town and a little shopping, before a relatively easy run to Kawakawa.**

Ahh, Kawakawa. This cute little town with its main street charging station has to be the heart of Northland's network. From here we were able to cover much of the Bay of Islands region. We even popped across to Kaikohe to try the fabulous Ngawha Springs, and while we had planned to top up at the 25kW DC charger in the town, a little cautious ped-

**Continued on page 16**

# EECA announces latest EV funding recipients

Nineteen innovative projects promoting the uptake of electric vehicles will be funded by the Energy Efficiency and Conservation Authority (EECA).

**The latest round of funding, worth \$3.87 million, covers up to 50% of the project's cost, with the other half paid for by the applicant.**

ChargeNet NZ has received three grants covering various areas of the country.

It gets \$65,500 to install two 50 kW DC fast chargers at Ward and Cheviot on SH1 between Christchurch and Blenheim on its Alpine Pacific Route.

The company also re-

ceived \$164,500 as part of a partnership with Venture Southland (Invercargill City, Southland District and Gore District councils), and local lines company Powernet that will see a dedicated electrified Southern Scenic tourist route established.

A trans-regional partnership comprising ChargeNet NZ, electricity lines company Electra Ltd, Horowhenua and Kapiti Coast District Councils will also install nine fast chargers in five towns through the Kapiti and Horowhenua regions.

A King Country collaboration between The Lines Company and the Ruapehu and Otorohanga District

Councils will see \$130,000 go towards the deployment of three cloud-connected metered fast chargers in Ohakune, Taumarunui Railway Station and Otorohanga.

There are plenty of heavy vehicle projects represented in the funding round, including \$763,668 for NZ Bus to install charging infrastructure for a fleet of pure electric buses in Wellington and \$255,000 for WEL Services to convert a 10-tonne internal combustion truck to electric.

Meanwhile, Eastland Port in Gisborne has been given \$177,000 to purchase a heavy electric truck to tow a water trailer which will be used to suppress dust in the port and

log yard sites across the town.

Tranzit Group has picked up \$367,000 for a fully electric bus on high patronage routes in Palmerston North.

**The tourism industry has also taken advantage of the funding, with Shore Trips and Tours given \$134,250 to develop an electric coach that will ferry cruise ship passengers to Te Puia and Hobbiton from Tauranga.**

Quest Apartment Hotels has received \$147,550 for advanced multi-charger systems across 29 of its long and short-term stay apartment complexes throughout New Zealand.

And Jucy Group gets

*Continued on page 6*

## WALLBOX ELECTRIC VEHICLE CHARGING SOLUTIONS

### WALLBOX PULSAR

The Pulsar unit gives you the option to make the most of off-peak electricity rates by being programmable. It can charge EV batteries overnight while you're sleeping.



### MYWALLBOX APP

myWallbox allows you to control charging sessions, configure the charger, and gives you access to your Pulsar's usage history to keep track of energy consumption and costs.

1 Install the Wallbox Pulsar EV Charging Station at home or group together with Load Sharing at work

2 Use myWallbox app to schedule charging and monitor energy use

3 Wallbox charges your Electric Vehicle for you at the time you choose with the power you choose

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www.transnet.co.nz



Continued from page 5

\$365,000 as part of its collaboration with several tertiary institutions to design lightweight fit-out options and other range extension initiatives to maximise the range for electric vans used in the tourism industry.

**Jucy will purchase and fit out 10 fully electric camper vans for this project.**

Also in the education space, Toi Ohomai Institute of Technology receives \$48,972 to connect its Tauranga and Rotorua campuses with two electric seven-seater vans for staff, with charging infrastructure at each campus.

**New Zealand Post has also picked up two grants.**

It gets \$100,425 in conjunction with contractor Grant Bagshaw Limited, to prove the suitability of electric vans for use on a rural post delivery network, with three Nissan e-NV200 vans set to operate in the Katikati region for a period of 12 months.

NZ Post also gets \$61,150 to produce a practical checklist for companies to assess the likely impact of installing EV chargers on building electrical infrastructure and energy costs.

Countdown Supermarkets

has received \$387,500 for fully electric delivery vehicles that can be used in online orders in busy urban areas of Auckland, Wellington and Christchurch.

Wellington-based Kaibosh Food Rescue gets \$69,999 to replace its old trucks with two new electric vans, for daily food rescue and redistribution runs.

**And in Auckland, Cityhop receives \$326,809, with a plan to add 20 low-emission vehicles to its car-sharing scheme.**

Christchurch City Council picks up \$43,470 to deploy an electric van for its newly re-established central city parks maintenance team, while The Environment Centre Hawke's Bay will use its \$13,000 grant to help purchase an EV van for operational use.

"Part of the focus on this round is to demonstrate light and heavy electric vehicles in sectors of the economy where the technology is relatively unproven," energy and resources minister **Megan Woods** says.

"This is about demonstrating the rapidly evolving technology that is making electric vehicles a practical option for a growing number of businesses.

"The round also continues to build New Zealand's EV public charging network.



Kris Fafoi, Richard Pither, owner of Porirua Motors, energy minister Megan Woods and Jos Westerbeek at the launch of the latest EECA funding announcement.

Twenty-two more public fast chargers will be installed to build drivers' confidence in the accessibility of SH1 between Christchurch and Blenheim; the Southern Scenic tourist route; and the Kapiti and Horowhenua coasts.

**Those areas receiving public chargers include Ward and Cheviot on the South Island's East Coast; Owaka, Papatowai, Waikawa, Tokanui, Riverton, Tuatapere, Manapouri and Te Anau in Southland; Foxton, Shannon, Waikanae, Paikakariki and Paraparaumu on the Kapiti Coast; and Otorohanga, Ohakuni and Taumaranui in the King Country.**

This new funding demonstrates the Government's commitment to increasing the number of low emissions vehicles as part of its pro-

gramme to move towards a net zero carbon economy by 2050, Woods says.

"Through this fund, a total of \$13.97 million in Government funding is being matched by over \$23 million third party funding - 24 projects from previous rounds have put results on the road so far.

"The fund is one of several initiatives in the Government's Electric Vehicles Programme, which aims to double the number of EVs every year to reach 64,000 by the end of 2021."

Funding for round five will open on August 15.

For more information about the fund, visit [www.eeca.govt.nz/funding-and-support/low-emission-vehicles-contestable-fund/](http://www.eeca.govt.nz/funding-and-support/low-emission-vehicles-contestable-fund/)

# Kona EV launches with sub \$75k price tag

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Sinclair adds: "The driving range of over 400km is really significant when considering a typical outdoors Kiwi lifestyle. We wanted to ensure that an owner in Auckland can head off for a weekend in the Coromandel and drive back to Auckland - all on a single charge."

In its release, Hyundai notes that this model range is for the "short term", opening the door for the launch

of a likely cheaper 39.2kWh model at a later date.

**Standard specifications on the standard model include a touchscreen infotainment system with smartphone mirroring, Forward Collision-Avoidance Assist with Pedestrian Detection, Lane Keeping Assist, Lane Following Assist and Blind Spot Collision Warning.**

The Elite model adds an eight-speaker premium

sound system leather interior heads up display, power front seats, larger display, heated and ventilated front seat, heated steering wheel, LED headlights with smart high beam and front parking sensors.

Customers can pre-order the Kona EV at [www.hyundai.co.nz/preorderknowev](http://www.hyundai.co.nz/preorderknowev),



a local Hyundai dealership or call 0800 HYUNDAI.

**Expect a full road test of the Kona EV in the next EVtalk.**



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# EVRoam eliminates range anxiety

Electric vehicle drivers can find an accessible charging station through EVRoam.

And they can learn before they get there whether it's in use, suits their charging cable and any other information they may need.

EVRoam is a NZ Transport Agency (NZTA) initiative that collects information from safe and monitored public charge points around the country and provides it through dozens of apps, maps and websites.



It's a "single source tool" providing all the information needed about charging stations. "So there's no need for range anxiety," NZTA safety and environment director **Harry Wilson** says.

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From left, NZTA chief executive Fergus Gammie, Simon Mackenzie, Julie Anne Genter, Steve West, Harry Wilson, AA's Vanessa Wills, and Stella Stocks, and Mike Noon.

## POWER DEALS FOR EV USERS

Company	Energy Deals	Where	Cost to charge LEAF*
 Mercury	<b>Plug-in Vehicle Fuel Package:</b> 20% discount on your energy bill from 9pm – 7am, available on multiple properties, guaranteed discount for 2 years from signing up to offer, 10% PPD is included in these calculations.	Auckland Wellington Christchurch	\$5.75 \$5.82 \$5.63
 meridian	<b>Electric Car Plan:</b> Super-low night rates that start at the earlier time of 9pm, until 7am daily. Available for your entire home's electricity needs. Rates are fixed for 3 years and includes 20% PPD. And, join before 31 August 2018 and get a year's worth of free EV charging on us! (bill credit of up to \$300).	Auckland Wellington Christchurch	\$4.91 \$4.15 \$2.80
<b>Contact Energy</b>	<b>Freedom plan:</b> Excellent night rates, no fixed term, 20% PPD has been included, check if the matching daytime kWh rate will affect your overall bill.	Auckland Wellington Christchurch	\$5.86 \$4.89 \$3.41
<b>Ecotricity</b>	<b>Low Solar:</b> Low Usage plan for EVs & can buy back solar energy, no fixed term	Auckland Wellington Christchurch	\$5.99 \$4.35 \$4.28
<b>Electric Kiwi</b>	<b>One Plan with Hour of Power:</b> Free hour of off-peak power daily – included and calculated to be 2 kWh for charging at 8 amps. Note: this could be different depending on your designated Hour of Power.	Auckland Wellington Christchurch	\$6.46 \$6.49 \$6.71
<b>Flick Electric</b>	<b>Wholesale rates plus their Flick Fee:</b> No fixed term, EV rate in Wellington. Calculated using an average spot price of 5.7c per kWh.	Auckland Wellington Christchurch	\$5.79 # \$3.58 # \$4.36 #
<b>Genesis Energy</b>	<b>Classic plan:</b> Excellent night rates, no fixed term, 10% PPD has been included, check if the matching daytime kWh rate will affect your overall bill.	Auckland Wellington Christchurch	\$6.61 \$4.10 \$3.62
<b>Nova Energy</b>	<b>Home EV Plan:</b> 20% prompt payment discount over whole electricity bill until 31 July 2020, no fixed pricing, no fixed term	Auckland Wellington Christchurch	\$6.41 \$6.29 \$6.39
<b>Paua to the People</b>	<b>Cheap As Plan with EV night rates:</b> No fixed term. Calculated using an average spot price of 5.7c per kWh	Wellington	\$4.90 #

\*Approximate cost for a full charge of a 24kWh LEAF in the 3 largest centres of NZ.

Please note that rates vary around New Zealand – the above costs were from Mt Wellington in Auckland, Northland in Wellington and Linwood in Christchurch. They can also depend on your meter type & the company you use. Prices vary at the different times of the day eg charging during the day may have higher costs and could increase your overall bill. Flick Electric in Christchurch has higher daytime rates in Winter due to variable pricing from the lines company. The rates we have used above are calculated each month using a low user cost, overnight rates, includes 10% charging loss, prompt payment discounts (PPD) if available and GST, excludes daily charge. Please note that prices were correct at time of publishing and are subject to change. Please contact us if you would like any clarification.

# Spot prices can go up and down as they are affected by demand in energy and weather conditions. We have calculated these prices using the average spot price of 5.7c per kWh at night over the last 7 years, however this is no guarantee of current or future prices.



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# SEA Electric driving zero emission delivery vehicles

SEA Electric is a driving force behind electric transport vehicles in Australia and is also making waves in New Zealand, with five vehicles deployed and many more to come.

The Melbourne-based company's drivetrain features in the first large capacity all-electric van available in Australia.

The E4V van, which also comes as a 14-seater, is designed for freight and taxi operators aiming to reduce their fleet running costs while gaining acclaim as an environmentally friendly operator.

**The van was officially offered recently after successfully completing trials that achieved a 400km range, joined in the trials by SEA Electric's E4B 14-seater.**

Built on vans imported from manufacturer XGD, the E4V and E4B feature the SEA-Drive which SEA Electric uses in all its fully electric transport vehicles.

It has developed and patented the SEA-Drive technology in 152 countries, with each of the five models customised to a specific category of commercial vehicles.

The SEA-Drive has been created by utilising some of the world's class-leading EV components and integrating each sub-system with proprietary software and controls. The outcome

is a flexible system that performs at the highest levels, while cost effective to use and adaptable to a large range of donor commercial vehicle platforms, the company says.

The flexible architecture and design mean the SEA-Drive acts as a "live"

platform and can be continually improved as both hardware and software improvements are made – both new and after-market. This de-risks the purchasing decision for the operator.

OEM and operator adaptation projects are in various stages of development across the globe.

The SEA-Drive technology can also power bigger commercial vehicles, up to 23.5 tonne rigid 6x4 vehicles, for instance, managing director **Tony Fairweather** says.

He suggests keeping watch for a pending, high-profile deployment in

Melbourne.

Although delighted with the 400km range trials, Fairweather says the vans



The SEA-Drive.



The all-electric 23.5t Hino GHEV rigid delivery truck.



Tony Fairweather

are designed for the metropolitan delivery and pickup market where the required range is more around 250km daily.

"We are confident that this equates to the majority of vans sold in this 25,000 per annum market."

**Changing battery technology, particularly in reducing their size, is expected to lead to weight savings, greater load capacity and reduced costs.**

"As much as we are very happy from the optimisation efforts of our SEA-Drive technology, we are also benefiting from the regular cell density improvements that are being offered by our supplier," Fairweather says.

He says range is no longer an issue in the pick-up and delivery sector, and the environmental benefits are well documented.

**The vans use an on-board charger and a standard three-phase, 32amp power point at night when excess power is usually available, reducing charging costs.**

The lower running costs will help fleet operators switch to EVs, Fairweather believes.

**He feels any added incentives from policy makers will also encourage commercial fleet uptake of EVs.**

"Our market focus is on products that have a greater financial return for our customers, as the total-cost-of-ownership is now less than that of a diesel product," he says. "It's cheaper to buy a SEA-Drive powered electric commercial vehicle than a diesel equivalent when understanding the true cost model."

SEA Electric also plans to launch a range of rigid all-electric delivery vehicles for fast-moving consumer goods (particularly food and beverage) distributors in both Australia and New Zealand soon.

With a general manager and two aftersales engineers now employed in Auckland, SEA Electric is open for business in both Australia and New Zealand, and can be contacted via [sea-electric.com](http://sea-electric.com) for more information. ■



The electric E4V van.



# Blue Cars provides EV services

It's easy to spot the Blue Cars premises in Auckland.

A number of Nissan Leafs parked around the outside of the Avondale firm are the giveaway.

Blue Cars was founded by EV advocate and electrician wizard **Carl Barlev**, who includes Tesla in an impressive portfolio of work experience.

**Barlev says he started Blue Cars to help Kiwis make the switch to electric mobility.**

While he still works in the electrical industry, Barlev is also involved in The Better NZ Trust, which he helped found with others such as **Steve West**. He was a former general manager for Drive Electric and has worked for a number of major companies

in the electrical engineering field. He's even driven in an electric marathon rally.

**With the help of an Energy Efficiency and Conservation Authority (EECA) grant, Blue Cars investigated how EV batteries could be reinvigorated.**



Bill Alexander.

Bill Alexander from Blue Cars led the project which learned EV battery cells could be replaced and rebalanced to provide more mileage for used imported EVs like the Nissan Leaf.

The project had some help from another electrical expert, **Niall Darwin**, who is involved in a dispute

with Tesla over a written-off Model S he had repaired and brought into New Zealand from Australia.

Alexander says they found EV battery modules could have cells replaced or rebalanced to give an EV a longer life, particularly as they were unable to obtain new batteries.

It's part of three core work areas for Blues cars, which also replaces old batteries with better used batteries from wrecked cars - as far as availability allows.

**Blue Cars is also building new batteries or refurbishing old batteries with new cells and is in the process of working out next stage development, possibly at a commercial level.**

"Some EV owners have

unrealistic expectations of what their EV batteries will cost, like \$2000-\$3000 - I don't think they realise," Alexander says. "It's more like \$20,000 to \$30,000 in many cases."

**He says rebalancing batteries helps keep some EVs going for many more years before the batteries need replacing.**

Alexander says they often get a car in every day to work on, some from dealerships preparing cars for sale.

Blue Cars has mainly Generation 2 Nissan Leaf 24kWh cars for sale as well. EV parts are sold regularly too. "People might want their seats changed if they've been damaged in their EV."

The company was started

Continued on page 16



# ELECTRIFYING THE FUTURE OF VANS IN NZ. EV80.

The LDV EV80 Pure Electric Van is here. Key features include a maximum payload of 1,000kg, safe and high-efficiency large-capacity lithium iron phosphate battery technology that can be fully charged in 2 hours PLUS zero emissions.

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# Auckland City Electric Vehicles dealership opens

A new electric vehicle business has opened in Auckland, but those behind it have considerable experience in the automotive industry.

Auckland City Electric Vehicles (ACEV) is up and running at 106 Anzac Street in Takapuna on Auckland's North Shore.

**Hadley Hargadon** is ACEV general manager and partner **Alana Clarke** is the office manager, with **Greg Kent** helping in sales.

All three have been involved in the industry prior.

In fact, ACEV could just as well stand for **Allan Clarke** EVs as the new business stemmed from a dinner table discussion involving him.

**"Allan and Hadley got talking, as dad's business (Allan Clarke Motors in Albany) had good suppliers in the UK and Japan," Alana Clarke says.**

"He saw a gap in the market for EVs and could offer a service. Both Allan and Hadley have strong car backgrounds and I was involved in marketing and finance," she says, recalling as a child often visiting her father's car yard.

Allan Clarke Motors, which started in July 1979, was an institution in Auckland - particularly on the North Shore, for around a decade.

He used to describe his business - visited by customers from all over Auckland - as being "only 12 minutes north of the bridge". ACEV, which is a division of Allan Clarke Motors, is now just two minutes north of the Auckland Harbour Bridge.

ACEV stocks Nissan Leafs - including the 2018 versions, BMW i3s, and can also order EVs to meet a customer wishes. A 2018 Nissan eNV200 40kW/h van is arriving soon.

**While many of the EVs are UK sourced, some are also coming from Japan - Hargadon insisting on 5A top quality vehicles. His background in car sales in Christchurch and on the Gold Coast comes in handy in such instances.**

EV education plays a major part in ACEV's business.

ACEV has a Ropec charger in the yard and is planning a charging wall in the office intended to be educational for visitors. "People want to know about charging," Hargadon says.

He says electric is the way of the future in transportation. "There are so many reasons to go electric, and I don't see any not to."

Fuel costs (especially with Auckland's fuel tax), the heavily reduced maintenance costs, zero emissions and the quietness associated with an EV are encouraging more and more people to investigate EV ownership.

**As one of the only designated EV yards on the North Shore, ACEV already gets plenty of enquiries.**

Both Hargadon and Alana Clarke are keen on sustainability and say young people particularly are very environmentally conscious and like EVs. Many businesses seeking a greener image are showing interest in an EV fleet too.

"We can all do our bit



Hadley Hargadon and Alana Clarke.

for the planet," Clarke says. "Many people tell us they would love an EV."

They believe owning an EV can change people's lives. "One friend who has a BMW i3 says he feels a better person for it, is more environmentally aware and he no longer even uses plastic bags," Hargadon says.

He says he's seen sceptics get behind the wheel of an EV and quickly come around to the idea of owning one.

**Visitors to ACEV can find out for themselves as the company allows people to test drive an EV overnight so they can determine if it is suitable for them.**

Range anxiety is less of an issue with customers these days, many of the new cars having greater range and some of the BMW i3s

come with a range extender feature.

**Hargadon and Clarke aim to expand their business, possibly even seeking bigger premises, as the EV interest grows.**

Meanwhile, they plan to get married early next year.

You could say the traditional wedding poem "something old, something new, something borrowed, something blue" could apply to their business.

The "old" being their industry experience, the "new" their yard, "borrowed" as in customer testing of their EVs, and "blue" simply standing for electric.

Visit [www.acev.co.nz](http://www.acev.co.nz), email [sales@acev.co.nz](mailto:sales@acev.co.nz), phone **022 157 8317** or drop in to the yard for more information. ■

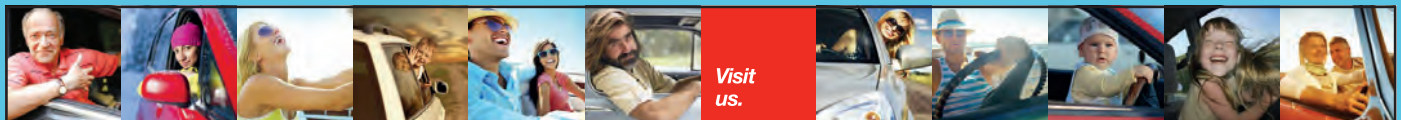


# Find your new EVs here!

EV FRANCHISE DEALER LIST	
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Farmer Auto Village 07 578 6017 info@farmerautovillage.co.nz 116 Hewletts Road, Mt Maunganui	Mt Maunganui
<b>HYUNDAI</b>	
Energy Motors 06 759 8070   hyundai@energymotors.co.nz Cnr Gill & Eliot Streets, New Plymouth	New Plymouth
<b>BMW</b>	
Auckland City BMW	Auckland
Winger BMW	Wellington
Christchurch BMW	Christchurch
<b>MITSUBISHI</b>	
Archibald Motors	Kaitia
Pacific Motor Group	Whangarei
Simon Lucas North Shore	Auckland
Andrew Simms Mitsubishi	Auckland
Auckland Motors Mitsubishi	Auckland
Roger Gill Mitsubishi	Pukekohe
Saunders Mitsubishi	Thames
Ingham Mitsubishi	Hamilton
Bay City Mitsubishi	Tauranga
Piako Mitsubishi	Rotorua
Wings & Wheels	Taupo
W R Phillips, New Plymouth	New Plymouth
Wayne Kirk Mitsubishi	Napier
Wanganui Mitsubishi	Whanganui
McVerry Crawford Mitsubishi	Fielding
McVerry Crawford Mitsubishi	Palmerston Nth
Wairarapa Mitsubishi	Masterton
Brendan Foot Mitsubishi	Lower Hutt
Wellington Mitsubishi	Wellington
Houston Mitsubishi	Nelson
Houston Motors	Blenheim
Christchurch Mitsubishi	Christchurch
Caroline Mitsubishi	Timaru
Stephen Duff Motors	Dunedin
Balclutha Mitsubishi	Balclutha
Southern Mitsubishi	Invercargill

NEW EV CAR TYPES				
MAKE	MODEL	TYPE	PRICING RRP est.	APPROX RANGE KMS
BMW	i3	BEV	\$76,900	200 km
	i3s	BEV	\$84,300	200 km
Hyundai	Ioniq	BEV	\$59,990	220 km
	Ioniq Elite	BEV	\$65,990	220 km
	Kona	BEV	tbc	400 km
LDV	V80	BEV	\$80,489	180 km
Renault	Zoe 40 kWh	BEV	\$68,990	300 km
	Kangoo van	BEV	\$74,990	160 km
Tesla	Model S 75/100 kWh	BEV	\$121,395	350 - 540 km
	Model X 75/100 kWh	BEV	\$129,145	380 - 475 km
Volkswagen	e-Golf	BEV	\$61,990	220 km
Audi	A3 Sportback e-tron	PHEV	\$69,900	45 km + 600 km
	Q7 e-tron	PHEV	\$158,400	54 km + 800 km
BMW	i3 - Range Extender	PHEV	\$84,500	200 km + 130 km
	i3s - REX	PHEV	\$91,900	200 km + 130 km
	i8	PHEV	\$281,200	37 km + 400 km
	i8 2018 Coupe	PHEV	\$286,200	55 km + 400 km
	i8 2018 Roadster	PHEV	\$309,900	53 km + 400 km
	225xe	PHEV	\$69,800	41 km + 550 km
	330e	PHEV	\$91,600	40 km + 550 km
	530e	PHEV	\$136,400	50 km + 600 km
	740e	PHEV	\$202,700	48 km + 550 km
	X5 xDrive40e	PHEV	\$152,700	30 km + 800 km
Hyundai	Ioniq Plug-in	PHEV	\$53,990	63 km + 1040 km
	Ioniq Plug-in Elite	PHEV	\$59,990	63 km + 1040 km
Kia	Niro	PHEV	\$55,990	55 km + 850 km
Mini	Countryman	PHEV	\$59,900	30km + 500 km
Mitsubishi	Outlander	PHEV	\$60,990	50 km + 500 km
Mercedes Benz	C350 e Sedan	PHEV	\$96,400	31 km + 700 km
	C350 e Estate	PHEV	\$99,400	31 km + 700 km
	E350 e Sedan	PHEV	\$143,500	30 km + 600 km
	GLE500 e	PHEV	\$149,900	30 km + 700 km
	S500 e	PHEV	\$255,000	30 km + 700 km
Porsche	Cayenne S e-hybrid	PHEV	\$177,800	20 km + 750 km
	Panamera Turbo S e-hybrid	PHEV	\$428,400	30 km + 750 km
Toyota	Prius Prime	PHEV	\$48,490	50 km + 1000 km
Volvo	XC90 T8	PHEV	\$134,900	44 km + 600 km
	XC60 T8	PHEV	\$94,900	40 km + 600 km

BEV - Battery Electric Vehicle  
PHEV - Plug-in Hybrid Electric Vehicle



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## USED EV CAR TYPES

MAKE	MODEL	TYPE	PRICING RRP EST.	APPROX RANGE KMS
<b>BMW</b>	i3	BEV	\$38k - \$60k	200 km
<b>Hyundai</b>	Ioniq	BEV	\$52k - \$55k	220 km
	Ioniq Elite	BEV	\$56k - \$59k	220 km
<b>Kia</b>	Soul EV	BEV	\$35k	150 km
<b>Mercedes Benz</b>	B250 e	BEV	\$46k - \$49k	140 km
<b>Mitsubishi</b>	i-Miev	BEV	\$11k - \$15k	100 km
	B-Miev Van	BEV	\$12k	100 km
<b>Nissan</b>	LEAF Generation 1	BEV	\$9.5k - \$17k	120 km
	LEAF Gen 2 - 24 kWh battery	BEV	\$14k - \$28k	135 km
	LEAF Gen 2 - 30 kWh battery	BEV	\$22k - \$41k	180 km
	LEAF ZE1 - 40 kWh battery	BEV	\$52k - \$63k	250 km
	e-NV200 van	BEV	\$19k - \$25k	140 km
<b>Renault</b>	Zoe 22 kWh	BEV	\$26k - \$30k	220 km
	Zoe 40 kWh	BEV	\$43k - \$48k	300 km
<b>Smart</b>	Fortwo	BEV	\$20k	100 km
<b>Tesla</b>	S 75	BEV	\$118k	350 km
	S P85	BEV	\$97.5k	350 km
	S 90D	BEV	\$125k - \$149k	420 km
	X 75D	BEV	\$145k	340 km
	X 90D	BEV	\$170k	410 km
	X 100D	BEV	\$159k	480 km
<b>Volkswagon</b>	e-Golf - 36kWh battery	BEV	\$57k - \$66.5k	200 km
<b>Audi</b>	A3 Sportback E-Tron	PHEV	\$52k	45 km + 600 km
	Q7 e-tron	PHEV	\$125k	54 km + 800 km
<b>BMW</b>	i3 REX	PHEV	\$40k - \$72k	200 km + 150 km
	225xe	PHEV	\$50k	41 km + 550 km
	330e	PHEV	\$50k - \$76k	37 km + 550 km
	X5 xDrive40e	PHEV	\$140k	30 km + 800 km
	i8	PHEV	\$122k	37 km + 400 km
<b>Mercedes Benz</b>	C350 e Sedan	PHEV	\$63k - \$75k	31 km + 700 km
	GLE500	PHEV	\$120k	30 km + 700 km
	E350 e	PHEV	\$120k	30 km + 600 km
	S500 e	PHEV	\$96k	30 km + 700 km
<b>Mini</b>	Countryman Cooper SE	PHEV	\$68k	30km + 500 km
<b>Mitsubishi</b>	Outlander	PHEV	\$27k - \$68k	50 km + 500 km
<b>Porsche</b>	Cayenne S e-hybrid	PHEV	\$129k	20 km + 750 km
<b>Toyota</b>	Plug-in Prius	PHEV	\$17k - \$25k	26 km + 800 km
<b>Volvo</b>	XC90 T8	PHEV	\$130k	44 km + 600 km

BEV - Battery Electric Vehicle  
PHEV - Plug-in Hybrid Electric Vehicle

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## USED DEALERS LIST

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<b>Autolink Cars   09 378 9090 autolinkcarsltd@gmail.com</b>	<b>Auckland</b>
<b>GVI Electric 09 216 7106   ev@gvi.kiwi</b>	<b>Auckland</b>
<b>Harwood Cars   027 492 2218 www.harwoodcars.com</b>	<b>Auckland</b>
<b>Wholesale Autos   0800 405 065 info@wholesaleautos.co.nz</b>	<b>Auckland</b>
<b>Auckland City Electric Vehicles 0800 248 9387   www.acev.co.nz</b>	<b>Auckland</b>
<b>Volt Vehicles 0800 748 658 / 022 4800 722 david@voltvehicles.co.nz</b>	<b>Auckland</b>
Plug N Drive New Zealand	Auckland
<b>Farmer Auto Village 07 578 6017 info@farmerautovillage.co.nz</b>	<b>Tauranga</b>
<b>Drive EV 027 521 0429   07 378 0082 steve@driveev.co.nz</b>	<b>Taupo</b>
EV Central	Taupo
The Car Man	New Plymouth
<b>Coventry Cars Hybrid &amp; Electric 04 384 4536 salesteam@coventrycars.co.nz</b>	<b>Wellington</b>
Gazley	Wellington
Cooper Auto Company	Wellington
The Car Company Nelson	Nelson
HVS Motors	Timaru
<b>EV City   03 972 5505 contact@evcity.kiwi</b>	<b>Christchurch</b>
<b>Metro Christchurch 03 348 5855 chris@metrochch.co.nz</b>	<b>Christchurch</b>
Hopmans QEII Quality Cars	Christchurch
Stadium Cars	Christchurch
<b>Auto Court   03 455 3000 info@autocourt.net.nz</b>	<b>Dunedin</b>
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ZERO EMISSIONS



## Getting back to green - EV camping

Continued from page 4

dling saw us back to Kawakawa with time to spare.

Of course the old go-to for EVs on a long journey is a campground. With 16 amp power, charging is fast and often placed close to tourist locations. Our campground of choice was the Orongo Bay - Russell Holiday Park. Tori, James and the team here welcome electric vehicles, regardless of if you are staying.

**We came in late, picked a site and plugged in for a charge. By early in the morning our van was charged, it took less than five hours.**

When plugged in the EV camper offers advantages you don't always get in basic camping vehicles. You can use heating and cooling system,

stereo, and the 12-volt system can be kept charged. This also runs the fridge and interior LED lighting. Sit in the back on the comfy red couch and cook yourself a meal. There is one fossil-fuelled item in the van, the butane cooker. There is also fresh water and a grey tank under the rear of the vehicle for the hand-pumped sink.

Not that we would recommend relying on it, but a 100 volt, 100 watt AC plug features on this Japanese import van, and we were able to charge a laptop and drone batteries with it. Handy!

We were hugely impressed by the storage available in the custom-built Jucy setup. Huge drawers and cupboards under the bench,

and a spacious storage area under the seat. You do not sleep in the van; however, you sleep in the spacious 'Autohome' bed that sits on the roof. It feels like a proper queen size bed with a little extra length to spare. It is cosy, yet comfortable.

**So is New Zealand ready for electric campers like this? Yes and no. The Jucy van is a well-executed concept, and for some, the range will be enough – you will have to be ready to experience the country at a relaxing rate. If Jucy were to invest in the new 40kWh eNV200, it would be a game changer.**

As you don't sleep in the van, I wonder if the superior concept could be the fitment of the excellent roof box sys-

tem and a small kitchen to 30kWh Leafs – these would give 80% of the practicality, with double the range.

Jucy, and this is a commendable move, is ready to move forward, with a plan to have ten vehicles on the road this summer.

"This new fleet of vehicles will need to go much further on a single charge to avoid tourists being stranded," Jucy founder and chief executive Dan Alpe says.

We couldn't agree more. Still, this little vehicle is a definite start.

Watch a video of our experience with the van at our **YouTube channel - Auto Media Group.** ■

## Blue Cars provides EV services

Continued from page 11

about three years ago, and Alexander has been working there for about two years after starting out as an agri-business engineer working for the former DSIR. He's interested in "alternative energy" and has been involved in energy projects like wind

power.

**A keen motorcycle rider, Alexander is also enjoying another aspect of Blue Cars' business.**

It's become the agent for Fonzarelli electric motorbikes and scooters. These have a range anywhere around 50km to 100km,

depending on the battery size and type of bike.

Alexander says he became interested in the brand after he spotted one at a testing station.

He says the Fonzarelli fits with Blue Cars' business ethic.

Blue Cars is meanwhile

aiming for more funding, possibly through crowd sourcing and other avenues, to work on further EV battery development.

Visit [www.bluecars.nz](http://www.bluecars.nz) or phone (09) 836 3159 for more information. ■



# Primed for the best of both worlds

The Toyota Prius Prime plug-in hybrid enjoys the best of two worlds – electric and petrol.

It works well as a hybrid (associate transport minister **Julie Anne Genter** has the use of one), rather than just in electric or petrol mode.

The Prius Prime is the first PHEV sold new here by Toyota New Zealand, coming with the claim it's a \$150-a-year car in terms of running costs, and our cheapest new plug-in at \$48,490 drive-away.

So how does it drive?

The car feels heavy but stable and drives well. Steering is good, if a little heavy too. The ride is comfortable, the Prius absorbing road bumps in its stride.

**The long dash's many lit up icons and information can be a little confusing at first, usually until the driver finds the information they need to watch.**

A HUD windscreen display shows your speed and the speed limit of the road you're driving on. This is a repeat of what's on the dash but again can be confusing when you come to different speed zones. For instance, on the Northwestern motorway between Waterview and Western Springs the speed limit was 80km/h (by now it should be back to 100km/h), but the HUD says it's 120km/h. We experienced the same issue in other areas.

It is not perfect, but it is promising.

Visibility is good front and back - the rear window is split by a spoiler but the bend in the middle of it still

allows good viewing. Not so good is that passers-by can see what's in your boot, which is roomy enough to fit my bicycle without removing its wheels.

The Prius Prime has a range of drive modes. The Eco mode switches between electric and petrol depend-

added. Mine after one trip was around 85% with the remark: "Excellent steady driving. Keep your current driving style". Another time it suggested more even acceleration. It feels weird having a car comment on your driving. But, hey, that might be good for many Kiwi drivers.



While electric mode is quiet (you can just hear the tyres), the petrol engine (95 octane minimum) doesn't make that much more noise, although you will notice it kick in.

**The car has a footbrake and the gear shifter is dash mounted and easy to operate, just a touch needed to select between drive, reverse and neutral.**

Driver assistance features include blind spot assist and lane assist. Both external rear view mirrors provide lit up warning icons when cars are close by, and sensors indicate when you are close to objects. A beeping from the lane assist can indicate when you stray over a road line – it doesn't operate under 50km/h and can be switched off if it becomes annoying.

There are plenty of pockets for storage and the glovebox is reasonably roomy (much of it was taken up with the car's thick hand-book).

The Prius comes with a wall plug charger (EVSE) which should fully charge it from zero in about four hours. Check to see if there's a charging cable available suitable for faster charging.

Another mode allows self-charging on the move, although it won't top up past 80% full.

**All-in-all, a great vehicle for getting around inexpensively – it will be interesting to see if a few taxi drivers can be lured from their traditions drives into something with a plug! ■**

ing how you drive and whether power is urgently needed. Petrol and electric use in this mode is good if your driving is even.

Steady driving over a 67km run to Mission Bay and back in Eco mode (zero charge in many cases) saw fuel consumption (95 octane plus) around 1.4-1.5 litres per 100km.

A 3% charge registered at Parnell after the downhill run through Grafton Gully, but that charge evaporated after a few kilometres.

**A rising or falling bar under a green car symbol (which goes black when EV power is off) indicates how you are faring in electric mode.**

And a report comes up on screen after each drive to rate your driving behaviour out of 100, with comments

Pure electric range is reported to be about 63km, although real-world travelling puts it a lot less than that. It's more like 40km to 50km depending on terrain and driving style.

**On a fairly flat run from Swanson in West Auckland to downtown Auckland City, a distance of around 21.7km, the charge dropped from 90% to 31% using EV City mode (electric only) in heavy traffic.**

A 31km run over hilly rural roads with plenty of flat stretches in-between saw the charge drop from 73% to zero, petrol power kicking in automatically once the EV battery power was gone. The Prius Prime does regain a little charge through regenerative braking, especially on downhill runs.



# MICRO EVS



## Meridian deal on UBCO electric utility bikes

A partnership between UBCO and Meridian Energy will see more UBCO electric utility bikes on New Zealand roads and farms.

**Meridian customers are eligible to purchase an UBCO 2x2 at 10% off the usual retail price from selected dealers throughout the country.**

"This is a huge step for UBCO," its chief executive officer **Timothy Allan** says.

"Meridian is the undisputed leader in the generation of clean energy in New Zealand – to have their endorsement of UBCO is recognition that we're well on the way towards achieving our goal of designing the ideal electric utility bike for New Zealand conditions."

Meridian agribusiness national manager **Dave Greenwood** says the partnership is another way the company is supporting the uptake of electric vehicles – including on the farm.

**"UBCO has a great product and one that we believe will be of benefit to many of our customers," he says.**

"This partnership is another way that Meridian is demonstrating its commitment to electric transport, by encouraging our customers to convert to electric and take advantage of the benefits of renewable energy and provide our customers with the opportunity to reduce their emissions and help combat climate change."

It has been an action-packed year for UBCO, with the company releasing a fully road legal version of their 2x2 now being distributed throughout New Zealand and Australia, with the aim of reaching the United Kingdom and Europe markets within the next year."

**The 2018 UBCO 2x2 is a game changer for the company. Officially classified as a moped/scooter/motor-driven cycle, the bike can be driven on-road with as little as a learner car driver licence, and it can transition from off-road to on-road and back.**

With no clutch or drive-train, no



Meridian and UBCO have teamed up.



The UBCO team at Fieldays with the International Innovation Award.

emissions, and no noise, and being two-wheel drive, with a powerful removable battery and digitally connected engine control unit, the bike is winning accolades and investors around the world.

The bike won the 2018 Fieldays International Innovation Award in June – an accolade to founders **Daryl Neal** and **Anthony Clyde**. More than a decade ago they visualised an electric utility bike that would replace the ubiquitous two-stroke farm bike. Judges praised

the 2x2 for being e-smart, eco-friendly and safer than competing farm bikes and ATVs.

"It has been exciting to see this bike transform from the prototype we first saw at Fieldays four years ago to the internationally competitive product we see today," Allan says.

**"I think that the UBCO 2x2 has exceeded every expectation to date and we've only just begun."**

To give the UBCO 2x2 a real endurance test, the company is preparing for an off-road journey throughout the length of the country.

The journey will be an opportunity for the UBCO team to test every feature of the bike, including rider comfort, product strength and battery range – all in extreme conditions far beyond those usually faced by UBCO owners.

An announcement of the track riders will take will be made in coming months.

**Visit [www.ubcobikes.com/](http://www.ubcobikes.com/) for more information.** □





# MICRO EVS



## Speed limits likely for micro EVs

Innovation tends to outrun legislation, especially in the micro EV field.

The popularity of such vehicles, like electric bikes and electric scooters, has soared in recent years.

That prompted the NZ Transport Agency to commission *Research Report 621: Regulations and Safety for Electric Bicycles and Other Low Powered Vehicles (2017)* – authored by Christchurch-based ViaStrada principal transportation planner **John Lieswyn**.

E-scooters are classed as wheeled recreational devices (if their rated motor power is 300W or less). Similarly, e-bikes with rated motor power of 300W are classed as pedal cycles. Up to 25,000 were imported in the past year, nearly double the previous year.

**While e-scooters are allowed on footpaths and shared pathways, they're forbidden on the road – unlike e-bikes. But pedestrians are increasingly concerned about rising micro EV numbers and speeds on shared paths.**

Lieswyn sees e-scooters becoming as popular as e-bikes, particularly in urban areas. Unlike e-bikes, no helmet is required (New Zealand and Australia are the only two countries with an all-ages mandatory helmet law for bikes).

"There is a wide range of scooters – those aimed at children do not go faster than 10-15km/h, smaller adult versions can do 25km/h and some larger models with powerful brakes are capable of over 40km/h. The faster ones should be allowed on cycleways."

**Radar tests at four Christchurch sites and one in Wellington show e-bike riders tend to have a higher speed than more conventional bikes. The spot speed test reveals e-bike riders are around 5-7km/h faster than unassisted bike riders, recording about 29.6km/h compared with 24.4km/h for the latter.**

Average speed may be governed by variables such as traffic density and intersection spacing, so the speed of an individual rider at a single point along a trip is a useful indicator of potential safety implications, Lieswyn believes.



John Lieswyn

However, the maximum speed of an e-bike rider is likely to be slower than or comparable to a fit unassisted cyclist.

**Overseas, speed limits and other restrictions around LPVs differ. Self-balancing scooters like Segways and NineBots are legal in the US, but not in most parts of Australia. Some countries allow throttle use with pedal-assist e-bikes, while others don't.**

Lieswyn says rules may be difficult to enforce, with speed governing at a point of import or sale the most likely solution.

Putting a wattage limit on an LPV may not necessarily work, he says.

"Self-balancing scooters require a lot more power to stabilise a rider and climb hills. Regarding e-bikes, we're the only country with a 300Watt law – most are 250W and others, like the US, are 750W or one horsepower. This leads to some bogus claims in the NZ marketplace, and retailers are asking for regulations that either match Australia or the United States for clarity," Lieswyn says.

"For e-bikes, it may be better to

allow up to 600W – a value that is already stipulated in our legislation as the threshold for definition as a motor vehicle – so you can have enough power to get up hills or assist a cargo bike for carrying children and goods. For self-balancing scooters, 1500W – as with mobility scooters, and a maximum speed is the way to go.

**"So governing the motor cut-out speed is probably the best way."**

Measures based on motor power wouldn't be easily enforceable, and the power written on the motor may not necessarily equate to the actual power

Continued on page 28

### MICRO EVS

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# EVRoam eliminates range anxiety

Continued from page 8

Wilson says data comes directly from all EV infrastructure providers, such as ChargeNet NZ and Vector.

**Tesla Superchargers are not included in the data as they only support Tesla owners and are not type 2 chargers, the agency says.**

The live database is hailed as a world first collaboration over EV charging.

Associate minister of transport **Julie Anne Genter** launched the real-time data base of the 117 active public rapid charging stations nationwide – with more to add as they open.

The free EVRoam service makes EVs

more convenient for New Zealanders, assisting the transition towards a zero-carbon economy, Genter says.

Telling about 70 guests at the EV-Roam Auckland launch she was more an electric bike fan, Genter uses a Toyota Prius Prime hybrid.

So she understands an EV driver's need for information about chargers.

**"We now have EV rapid charging stations every 75km on almost 80% of the state highway network, which is a huge achievement.**

AA Motoring Services general manager **Stella Stocks** says data is available for all 1.6 million AA members and the public on the AA website's travel time and distance calculator.

"We'll be displaying up-to-date information in a live display through AA EV Charge Finder, which will enable drivers to plot their journey between charging stations."

ChargeNet NZ chief executive officer **Steve West** says: "Being able to access information about the chargers - where they are, what makes and models they support, and whether they're operational or not makes it easy for EV owners to plan their journeys and helps to remove range anxiety."

Vector chief executive **Simon Mackenzie** says EVRoam gives confidence to current and future EV owners.

Visit [www.nzta.govt.nz/evroam](http://www.nzta.govt.nz/evroam) for more information. ■

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Drive Electric is a not-for-profit membership organisation with one goal – making EV ownership in NZ mainstream.

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# INTELLIGENT TRANSPORT

## Connected Vehicles



# ITS New Zealand is stepping up a gear

With the recent business plan and presentations made at its AGM, ITS New Zealand has charted an ambitious route for the years ahead.

**The organisation is advancing its standing as an increasingly active body for “Future Transport” sectors locally and on the international stage.**

The organisation is committed to holding events across the country, with the recent AGM being held in Wellington. To tempt those who see AGMs as uninspiring, it was preceded by an insightful report from the Ministry of Transport’s **Helen Robertson** who had recently attended the Future of Transportation Conference in Cologne.

ITS New Zealand’s chairman **David Vinsen**, president **Mohammed Hikmet** and executive officer **Simon McManus** delivered reports on the status of ITS New Zealand, the achievements of the past year and objectives for the year ahead.

Vinsen described how the past year had been “exciting and transformative” for the organisation. While much of the transformation was in the governance and administration, the T-Tech event was a representation of the organisation’s direction and intent to broaden the organisation’s focus beyond technology solutions and traffic management.



Helen Robertson addresses the ITS New Zealand AGM.

**T-Tech attracted a record of more than 220 people to the main conference, with Business NZ launching a report on the opportunities that will arise from ITS, and a Women in Technology breakfast as additional activities.**

Feedback was “very positive”, especially on the programme’s quality, diversity of content and calibre of speakers – seven of them international guest speakers. Planning is already under way for next year’s T-Tech event with an



David Vinsen.

expectation for it to grow considerably.

Vinsen attributed T-Tech’s success to the considerable effort contributed by **Lee McKenzie** and **Simon McManus**.

ITS NZ’s recently published business plan sets the organisation’s direction and values heading into a new era by integrating disruptive and emerging ideas, Vinsen



Simon McManus.

says.

“ITS not only comprises transport technologies that seek to make transport safer, more efficient and sustainable, but also the resulting solutions and new business models that are enabled by technology.”

**These include traffic and demand management systems and models, vehicles and in-vehicle technology, communications and network systems, data analytics and artificial intelligence (AI), and**

**transport as a service (TaaS) and mobility as a service (MaaS).**

Vinsen says ITS NZ is in a very strong position heading into the next year and had for the first time appointed an executive officer, **Simon McManus**, vastly developing the organisation’s capabilities.

ITS New Zealand president **Mohammed Hikmet**

explained the recognition that ITS New Zealand now receives in international activities, in particular following the large representation at the 2017 ITS World Congress in Montreal.

New Zealand took part in two of three plenary sessions at the 2017 World Congress in Montreal – “our greatest ever representation at an international ITS event”, Hikmet says, noting this is exceptional for a country of our size.

He also described how Christchurch was one of five featured “smart cities” from around the world, the NZ Transport Agency, Ministry of Transport, Christchurch City Council and Christchurch International Airport creating a fantastic showcase.

Mohammed encouraged the membership to take up the opportunities, and focus on participation and contributions to such events which will help grow and maintain New Zealand’s status and

Continued on page 23





# INTELLIGENT TRANSPORT Connected Vehicles

## ITS and other tech helps the MoT

The use of technology and how it can help the Ministry of Transport achieve its outcomes is a key part of the ministry's thinking.

**Helen Robertson** from the MoT recently attended the Future of Transportation World Conference in Cologne to find out more.

She then gave a presentation on the conference at the ITS New Zealand AGM.

**Nine conference streams and more than 100 presentations by companies, regulators, policy makers and academics, ensured plenty of information for Robertson to bring back to New Zealand.**

Some of the streams looked at urban air mobility, the legal and regulatory challenges of autonomous vehicles (AVs), Mobility as a Service (MaaS) and infrastructure and

project funding.

"Attending conferences like this help us to understand developments in the world of transport which we can use to inform our policy thinking," Robertson says.

She says there was a strong focus on urban air mobility, with the "flying car" becoming more of a reality.

More than 90 companies are investing in electric and hybrid/electric vertical take-off and landing (VTOL) aircraft, Robertson says. That includes the Zephyr Airworks Cora pilotless air taxi trials in Canterbury.

### Why now?

Because technology has improved rapidly, Robertson says. "Computing got lighter, sensors got lighter, improving battery performance (50km range today but expected to grow to 90km by 2025) are all

factors," she says.

**Low cost manufacturing, movement to performance and risk-based regulations are also key.**

"There were interesting presentations from Mobility as a Service operators such as



**Helen Robertson.**

Whim, which is operating in a several European cities," Robertson says. "Helsinki want to be the first city where people don't need to own a car by 2025. It's the view of companies like Whim that cities will need MaaS to realise this goal."

Whim's early findings show 47,000 users in Helsinki, over one million Euros in net payments received and more than 750,000 trips completed.

More people are likely to walk, cycle and use public transport there, leading to some reductions in private vehicle use.

**"There was the view that dedicated infrastructure is needed to fully unlock the potential of AVs and that there's an urgent need to organise and finance the necessary infrastructure," Robertson says.**

That raises the question about how much is needed here to invest ahead of AV uptake. "Or do we wait and see?"

The MoT is considering such questions and what decisions, particularly around regulatory and investment requirements, are needed to ensure New Zealand is ready to deploy new and emerging technologies and business models where supporting transport outcomes. ■

Continued from page 22  
position as a progressive country of innovators.

**Submissions are being sought for the next Asia-Pacific World Congress in Singapore in 2019, Hikmet says.**

Hikmet, who is founder of HMI Technologies and subsidiary Ohmio Automation, also advised that New Zealand is now chairing the ITS Asia Pacific policy direction subcommittee and has been selected among nine members of the World Congress Strategy Committee for the 2019 ITS World Congress being held in Singapore.

**"New Zealand is also highly involved in establishing an artificial intelligence (AI) ad-hoc working group with the next 18 months in ISO TC 204," he says.**

Adding that he's "incredibly proud" of ITS NZ's achievements during the past year, Hikmet says he looks forward to working with others to continue growing our local and international reputation.

He also paid tribute to ITS NZ's inaugural T-Tech Conference in Auckland in March.

**Simon McManus** was appointed executive officer late in 2017. McManus has been involved with ITS New Zealand for four years in a contracted communications capacity, but he now has a broader operations management role. In introducing himself and his aims he referenced the opportunities and barriers to be overcome identified in the Business NZ report, which was launched at T-Tech.

McManus spoke to the treasurer's report in the absence of ITS NZ treasurer **Mike Rudge**, who was working in the Middle East. The treasurer's report noted the organisation made a profit over the past 12 months despite investing some \$40,000 on top of ticket revenue to fund the T-Tech conference.

Despite plans to grow membership revenue, ITS NZ has budgeted for a loss in the coming year. The loss reflects the board's intention to invest in activities to achieve their long-term goals for the organisation and return value for members.

Members and prospective members can now refer to the business plan to see an outline of how their investment is allocated to activities including events,

international representation and skills development.

### Intelligent Transport Systems Board

The board comprises chairman **David Vinsen**, president **Mohammed Hikmet**, vice-president **Andrew Gurr** (Fusion Networks), treasurer **Mike Rudge** (Stantec), secretary **Deryk Whyte** (DWG Consulting), VP membership **Blair Monk** (Aurecon), VP international programme **Stephen Hewett** (Beca), VP events **Lee McKenzie** (Ministry of Transport), plus **Dave Rendall** (Fulton Hogan) and **Peter Filbey** (Auckland Transport).

**Simon McManus** (Sharp Angles PR) is the ITS New Zealand executive officer. ■



## Thousands of drones and e-bikes not covered by insurance

Kiwi electric bike and drone owners are being warned to check their insurance policies as one expert cautions the industry hasn't kept pace with new technologies.

**Simon Moss**, partner services manager of NZbrokers, one of the country's largest insurance brokerage groups, says analysis of home contents policies found significant complexity and variation in wording - leaving many e-bike and drone owners unexpectedly without cover for loss, damage or third-party liability.

"When consumers purchase this type of technology they tend to think of it as they would for a model aircraft or push bike - as they are seen to perform the same function," Moss says.

**"The insurance company is looking at it very differently, however - while they may cover your \$5000 push bike, many will not cover your e-bike of the same value because of terms in the policy or the legal status of your e-bike."**

"Similarly, a drone may be treated by insurers as a type of aircraft if it is capable of lifting more than its own weight - a criteria which is impossible for most consumers to measure."

Moss says this means a drone may be covered for loss if dropped while getting it out of the vehicle, but may

not be covered if it falls from the sky.

Drones usually cost more than \$5000.

"From the insurers perspective, drones and e-bikes are an unknown risk and until they have an accurate picture of that risk they will tend to act conservatively," Moss says.

**New Zealand now has about 40,000 e-bike owners, Statistics NZ estimates. Some 500-watt models cost almost \$10,000 each.**



Simon Moss

**Moss says once insurers see a claims trend it is likely that more**

**exclusions and conditions will be applied to e-bikes and drones.**

"Historically, we have seen a precedent for this type of model," he says. "In the 1960s and 1970s insurers began to exclude sporting goods 'while in use' after



Your drone may not be covered by insurance if it falls out of the sky.

they found themselves paying out for bent golf clubs and damaged windsurfers.

"Later, we saw a similar trend with laptops, after insurers realised they were replacing damaged technology with better equipment because you couldn't buy the same product with old



Check your e-bike cover.

software anymore. So anything over two-three years of age would then be replaced at its second-hand value."

Moss says some home contents policies will cover an e-bike if its output is under 300-watts - the "maximum power output" before the bike is classified as a motorcycle by NZ Transport Agency regulations.

"This is one source of potential confusion as some e-bike motor manufacturers print on the motor their maximum 'input power' because that number is larger (typically motors run at about 80% efficiency) thus giving the impression the buyer is getting a more powerful motor," Moss says.

**"Conversely, a consumer may see '300-watts' written, but the bike may generate more power than this when in use."**

Moss says some policies will not cover e-bikes and drones while others will set maximum standard limits

but will include third-party damage.

"The risk of a road accident on an e-bike, which can travel in excess of 40km/h, is at least as high as any other road user travelling at that speed, and most home content policies we looked at don't cover owners for third party damage to other vehicles.

"And if a drone happens to cause an accident while it is in use near a road, the owner will be left to foot the bill in most circumstances."

**Moss says while there are no e-bike specific policies on the market, some insurers are starting to offer better cover for drones.**

"Drones have a number of commercial applications and so we are seeing what amounts to mini aviation policies coming on the market now, but there are limited options for private or hobby drone users."

Consumers concerned about the level or type of cover they are receiving should consult a broker. ■





# AUTONOMOUS VEHICLES

## Autonomous vehicles are here

**A**utonomous vehicles (AVs) are already here, but there's speculation around when people can use them, especially on public roads.

**Waymo now has fleets of driverless cars in selected areas of the US, like San Francisco, Detroit, Atlanta and Phoenix, and says it could use them in ride-hailing services in 2019.**

The latter area has seen the company develop and test an autonomous ride-share service with modified Chrysler Pacifica hybrid minivans. Waymo intends launching that service to the public later this year in Arizona.

It has clocked up nearly 13 million kilometres on its AVs in the process.

**GM-owned Cruise has a big fleet of AVs in some US cities, as does Lyft which provides an autonomous taxi service.**

Many other companies in the US and around the world are involved in testing or providing AV services, such as Intel in Israel, nuTonomy in Singapore, Yandex in Russia, Voyage in Florida and Drive.ai which has just started a trial of seven self-driving vans in Texas.

New Zealand and Australia also have AV trials, mainly for private, closed-circuit roads at this stage.

Judging from overseas reports, AV use is expected to initially involve limited areas to provide shuttles for people and cargo.

**Most media pick AVs for personal use will take longer to develop, with issues around safety, insurance and regulations often needing to be addressed first.**

Auto makers involved in



How an urban road may look



AVs are coming, the question is how soon.

the semi-autonomous or full AV area include Ford, Toyota, Nissan, Volkswagen, Hyundai, Fiat Chrysler Automobiles, BMW, General Motors, NV and Tesla, according to one report from Research and Markets.

Tesla, in fact, claims that all the cars it's building will be capable of full self-driving. The electric car company is developing its own computer chips which it says can handle 2000 frames per second - with some spare

capacity.

Chief executive officer **Elon Musk** has said all new Teslas come with the hardware for autonomous driving - but just need the right software.

Nvidia, which makes graphics processors that help AVs understand what they're seeing, says that its latest driverless-car supercomputer should be in robotaxis early next year.

Connectivity is also key, with vehicle-to-vehicle and

vehicle-to-everything systems being developed.

**This allows multiple vehicles to co-ordinate on the road, including warning each other of incidents, and providing travel close together - or platooning, which can improve traffic flow and save fuel.**

Much will depend on how people adapt to AVs.

Some overseas media report that if smartphone adoption is anything to go by, it could take at least a decade for people to come to terms with AVs.

Governments may need to have the right policies in place, if they haven't already, to encourage AV use, they say.

Various media dealing with AV issues also say that while AVs are coming and will be a future transport mode, it won't happen overnight.

Time will tell. ■

# Putting the “electric” in EVs

Electricians need to be part of the electric vehicle conversation.

So says **Marcel Roquette**, sustainability advisor for Corys Electrical.

With new electrical regulations around EVs due out soon, Roquette says it's more important than ever to have experts in the electrical field involved.

It's not simply a case of plugging in an EV and forgetting about it – the whole situation around electrics and EVs is far more complex.

**Roquette points to Corys Electrical's own newly installed charger at its Auckland head office as a case in point.**

The Mode 3 electric vehicle supply equipment (EVSE) with Type 2 sockets has essentially been installed to service a Ford Focus Electric on a year's evaluation with Corys Electrical. The charger is expected to be available for public use once it's connected to the ChargeNet NZ network.

Installing the Schneider charger wasn't a straight forward job. The old switchboard had to be upgraded to cope, says **Marty Bedford** of Thompson Electrical which did the entire job.

Like many chargers, the device also had to be internet connected (cloud connectable) so the EV and charger “talk” to each other.

During about 25 hours of work on the switchboard change-over and cable connections to a computer, a generator had to be used to provide power.

**“Expensive” and “challenging” were words used around the whole task.**

An Electrical Certificate of Compliance (Electrical Safety Certificate) for the work had to be ticked off. It rated the work in compliance with AS/NZS 3000 standards, that the work had been done in accordance with certified design for the installation, that it's safe to use and not adversely affected any other part of the installation.

That's all necessary to meet insurance requirements, with EV charging installations branded “medium risk”.

“So if anything goes wrong, like a fire, the electrician or electrical firm involved would immediately be asked for compliance documentation,” Roquette says. These, including a Supplier Declaration of Conformity (SDoC), would be used by insurance companies to help determine any liability.

Security aspects had to be checked as well, with the charging system isolated to avoid any issues around that.

**But it all worked out well for Corys Electrical, with the charger installation and accompanying work given a high endorsement by the testers and agencies involved.**

“We want to be a leading supplier of EV charging infrastructure, so many aspects of it we need to trial ourselves as customers expect safe solutions,” Roquette says.

Imagine the home owner or landlord who wants to plug-in an EV or have a

charger installed. “The first thing they would do is call an electrician and ask what they are supposed to do,” Roquette says.

“In many cases, the electrician can't always answer all the questions, so they turn to us to help them.”

Roquette says it would be easier to have a simply understood standard format to respond in such situations.

**There are so many products now on the world market with varying aspects to them, he says.**

“It needs to be simplified.”

He'd like to see New Zealand have a set of guidelines for electricians which can be ticked off, rather like the British IET code of practice which has a 110-page guide. “I've suggested we could use that as a basis for something similar in New Zealand.”

A 40-page check list, covering all the different aspects and complexities around EVSE, could be adopted for New Zealand to make it easier for electricians and others. It could require boxes for an electrician to mark off, for example, that they've contacted the grid operator about the planned installation.

Some garages have contacted Corys to ask about what chargers to use.

Electricians are expected to know it all about EVs and charging. “We need to be very clear on the different

standards and have the basics clear,” Roquette adds.

**He says this year the company has been “swamped” with enquiries and requests relating to EVs and charging. So any products have to be reliable and 100% safe, Roquette says.**

Regulations are changing to keep up with the EV uptake and infrastructure. Roquette says the talk has included some electricians, but he'd like to see further consultation with the electrical industry.

And he says it's uncertain when the new regulations will be released.

He'd also like to see a “one size fits all” charging unit produced to remove a lot of the complexity, and more training for electricians around EVs and the infrastructure

From France, Roquette has been involved in the electrical industry about seven years, having gained university qualifications in sustainability and working for Corys Electrical's parent company French-based Sonepar Group. He's also worked in countries like Canada and has been involved in solar and recycling ventures.

He became interested in EVs while growing up after seeing all the French Post (La Poste) chargers for their electric Renault Kangoos around Paris. “Then they ripped them all out.”

Roquette has been at Corys Electrical nearly two years and believes New Zealand, with its renewable energy sources, has a key part to play globally in the EVolution. ■



Marcel Roquette

## Factory fix for Nissan Leaf 30kWh LBC

Continued from page 1

\$250 (including GST) and Johnston says it will continue to provide that service. “It's great that Nissan has finally stepped up and given some support for the prod-

uct in New Zealand.

“We think the Leaf community can thank **Walter Larason** (EVs Enhanced, Christchurch) for this.”

Flip the Fleet spokesman **Henrik Moller** says: “It's great

that Nissan will help correct a manufacturing fault in second-hand imported Leafs.”

The EV representative group's concerns about the 30kWh Leaf battery issue aired earlier this year.

**“The next important step is for Nissan to provide affordable battery replacements in New Zealand,” Moller says.**

“Surety of full service of second-hand imports is needed to future-proof New Zealand's low emission vehicle uptake goals.” ■



# WE'RE COMMITTING TO EVs

We're seeing how some of the New Zealand companies are doing with their commitment to electrify at least 30% of their vehicle fleets by 2019. Watercare is among 30 of the country's employers to agree on the deal.



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Xero

## Watercare plugs into EVs

**W**atercare's entry into the world of EVs is like the cars themselves - quiet but accelerating quickly.

The Auckland Council-controlled organisation (CCO) provides treated water and wastewater services for the people of Auckland.

Five white Hyundai Ioniq EVs arrived last year to join the pool fleet at head office in Newmarket, with eight more due to be ordered before the end of this year.

For the first time, the new vehicles will also include two Mitsubishi Outlander plug-in hybrid SUVs.

**The EV fleet is used by a range of staff from engineers to planners to the executive team. Watercare provides services over a huge area— from Wellsford in the north to Tuakau in the south.**

The cars have all performed well, apart from the designated executive team vehicle which twice had to be jump-started in the past month.

Watercare head of supply chain **Stuart Bird** says at first the cause was mystifying. "The sight of an electric car being jump-started was a little bizarre," he says. "Most staff didn't realise that EVs also have 12-volt batteries that operate air-conditioning, radio, headlights and so forth, in addition to the much larger traction battery which powers the car.

"It took us a while to work out what was going on, then we realised that with this particular car the GPS was draining the 12-volt battery overnight."

Now the car is running perfectly.

**Electric cars are a good fit for Watercare as sustainability lies at the heart of all it does.**

"We are committed to energy efficiency and the use of renewable resources," Watercare says. For example, both Mangere and Rosedale wastewater treatment plants use biogas from wastewater treatment and that, combined with energy efficiency and innovation programmes, allows Watercare to have a vision of being energy neutral by 2025.

**Bird says the arrival of the EVs has created great excitement among staff. "During our annual Energy Week celebrations in 2017 we brought along a couple of Teslas for people to try, and we were blown away by the reaction. We had a constant stream of staff wanting to drive them."**

A number of staff own their own EVs and



Watercare's fleet of Hyundai Ioniqs.

Watercare says it's clear there's a growing interest in these vehicles as viable alternatives to petrol cars because they're cheaper to run and are better for the environment.

Some first-time users at Watercare have been flustered and perplexed by the EVs' start button system and electric handbrake. While they are not peculiar to EVs, they can add to initial nervousness.

"We've had one or two instances where people have forgotten to charge the EV at the end of the day and then the next morning," Bird says, the battery has been low, but we have had no instances of drivers being marooned because of flat batteries."

**The overwhelming reaction from staff has been that the EVs are very quiet and comfortable to drive.**

Watercare has installed four overnight or slow chargers, and one DC fast charger. The chargers are only at head office but there are plans to install them at other major Watercare sites such as Ardmore Water Treatment Plant and Mangere Wastewater Treatment Plant.

A free charging unit for public use is located in a car park outside head office. This was donated by Mercury and is popular with local EV owners.

**Watercare hopes to replace the entire Newmarket corporate pool cars with EVs in 2019 and is investigating electric vans for some maintenance staff. ■**



Stuart Bird

# EVs DO double in numbers in NZ each year

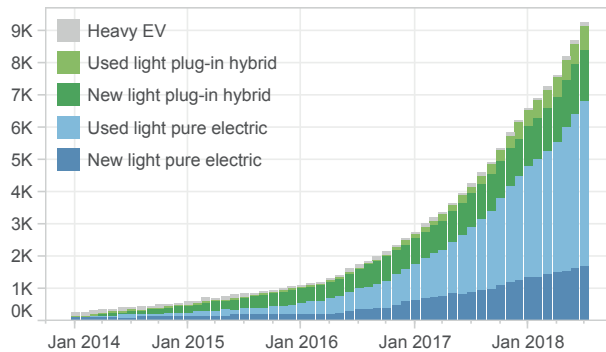
Sceptics who doubt the ability of the New Zealand electric vehicle market to double in numbers each year should take a look at the latest Ministry of Transport statistics.

**At the end of July, the following were the total number of EVs (pure battery EVs and plug-in hybrids) in NZ:**

- 2013 - 206**
- 2014 - 415**
- 2015 - 841**
- 2016 - 1747**
- 2017 - 4252**
- 2018 - 9241**

This shows clearly that the previous government's ambitious target of

**EV fleet size**



Electric vehicle (EV) registrations are increasing, and are dominated by used imports at present.

	2013	2014	2015	2016	2017	2018
Jan	192	232	592	1,114	2,753	6,623
Feb	192	243	622	1,150	2,981	6,911
Mar	200	283	680	1,223	3,188	7,248
Apr	200	326	713	1,316	3,372	7,625
May	202	364	742	1,401	3,656	8,193
Jun	205	388	793	1,595	3,964	8,700
Jul	206	415	841	1,747	4,252	9,241
Aug	208	439	870	1,871	4,587	
Sep	210	464	914	1,985	4,920	
Oct	218	491	954	2,149	5,355	
Nov	223	524	999	2,370	5,834	
Dec	227	551	1,053	2,550	6,209	

64,000 EVs by 2021 can be easily met - or exceeded - particularly with the rush of new models already announced in the next two years.

This rush also means that there will be more EVs - utes, trucks, buses, vans and lower-priced cars - for every

purpose. By 2020 there will be a regular supply of realistically-priced EVs coming on to the second-hand market from today's new vehicle fleets.

**So by the end of 2021, don't be surprised if instead of 64,000 EVs the tally is well over the 100,000 mark. ■**

## Speed limits likely for micro EVs

Continued from page 19 produced, Lieswyn states.

He says our road user rules govern behaviour on pathways, but they are rarely enforced.

**"If someone is killed or seriously injured then the rule could be used against someone. They're also used for educational purposes.**

"But as long as people are behaving responsibly, police aren't going to stop you from using an e-scooter on a footpath or shared path.

"As more of these things hit the streets and the footpaths, regulatory agencies around the world are already implementing additional rules."

A former US national road



Electric scooters are soaring in popularity.

cycling champion, Lieswyn's own e-bike is Canadian and Danish built, which he's had for five years. He says he feels safer on it as the speed is sufficient that he's not always being overtaken by

traffic in the Christchurch urban area.

**He says the NZTA and the Ministry of Transport are reviewing rules governing LPVs and the use of pathways, with rule changes expected in 2019 or 2020.**

Local government will likely have the ability to set local bylaws in relation to specific pathways.

However, these need to be consistent, so central government should hold the "default" position, Lieswyn believes.

He also says shared paths and cycleways should be wide enough to accommodate users safely.

Separating cycleways and paths from other traffic is

also happening in New Zealand cities, and encourages more people to use LPVs because they feel safer.

Lieswyn notes that some of their research shows women are taking to e-bikes more than unassisted cycles. "Women are under-represented among all riders, but less so amongst e-bike riders."

**The research in which Lieswyn and ViaStrada have been involved has assessed the pros and cons of power limits, maximum motor-assisted speed, throttles, age limits, usage locations such as shared paths, licensing and registration.**

Now it's up to the government to decide what's best for LPVs. ■



# NZ EV fleet exceeds 9000

New Zealand's electric vehicle fleet has reached 9241.

The July EV statistics are up 541 on June's 8700.

Used light pure electrics continue to lead the way, comprising 5114 of that total, latest Ministry of Transport figures show.

That category is up 350 on the previous month.

**New light pure electrics reached 1678, up 43 on June's 1635.**

Not far behind were new light plug-in hybrids at 1616, an increase of 75 on June.

Used light plug-in hybrids totalled 740 – 64 more than June, and after months of relative stagnation, heavy EVs rose from 84 to 93 – probably due to Wellington's new electric buses going into service in July.

EV registrations were at their second-highest for the year, all light EVs at 550 in July compared with 514 the previous month and 572 in May.

**The 550 EV registrations comprised mainly used EVs at 420.**

If the trend in New Zealand's EV fleet continues, the 10,000 mark should be exceeded within about two months – way ahead of the 8000 end-of-year goal and well on track towards the 64,000 EV target by the end of 2021.

A keen eye on EVs is being kept by



The Nissan Leaf remains New Zealand's most popular EV.



Alan Clark

Trade Me Motors.

Trade Me says that worldwide attention on EVs is increasing, especially with some large auto makers committing to phase out petrol and diesel vehicles, Trade Me is committed to providing relevant information about EV market trends to keep followers ahead of the curve.

To July 20, new EV listings on Trade Me were up 6.9% on the previous month, and up 67.5% on last year.

**While the number of viewings for EV listings were down 19.3% on June, they were up a massive 111.3% on the previous year.**

The Nissan Leaf was by far the most popular EV model listed on Trade Me in

July. That was followed by the BMW i3, Toyota Prius, Nissan e-NV200 and the Hyundai Ioniq.

Regional EV popularity scores (when compared to overall watchlist activity) were highest in Wellington (up 33.3%), followed by Christchurch (19.2%) and Auckland (17.8%). Drops of 32.3% were recorded for the central North Island, 20.6% in the lower South Island, and 19.2% in the upper South Island.

**The average listing price of an EV on Trade Me was \$24,100 for June, up on the previous two months, but below the peaks of around \$25,000 over the summer.**

"We're focused on making it easier for our customers to navigate their way around the relatively new world of electric vehicles," Trade Me Motors head Alan Clark says.

"As part of this we've invested in bespoke reviews with real-life road tests to demystify EVs for consumers, and we've updated our search filters to include electric vehicles, hybrids and plug-in hybrids.

"We're also working on more changes to the site which we'll be launching in the coming months that will make finding the right EV an easier experience," Clark says.

"We keep a close eye on the EV activity on our site and share this data with dealers in the *Market Overview* section in our monthly dealer newsletter, helping dealers keep their fingers on the pulse."

Visit: <https://www.dealerbase.co.nz/announcements.aspx> for more information. ■

## More and more readers for EVtalk

Readership of *EVtalk* continues to soar, with the magazine and the bi-weekly news Alerts having more than 12,000 readers in July.

Some 23,000 articles were also checked by subscribers - 1500 more than in June.

These are more than double the figures that *EVtalk* achieved only nine months ago, making it one of the fastest-growing digital and printed magazines in the country.

Meanwhile, across the ditch in Aussie, the more recently launched *EVtalk.com.au* reaches a milestone

next month when a full PDF magazine is launched to complement the twice-weekly news Alerts and the daily updated website.

"Auto Media Group has been proud to have played its part with *EVtalk* - in the past three years - in pushing New Zealand forward to an electric vehicle future," says the groups' publisher, Vern Whitehead.

"With more readers now each month than there are EVs in New Zealand, *EVtalk* is proud to be a crucial component in the growing Kiwi EV success story," adds the publisher. ■



## EV TALK DIARY

EVtalk New Zealand editor Geoff Dobson looks at the month gone by on [www.evtalk.co.nz](http://www.evtalk.co.nz)



## July 3

### EV guide for local bodies

A new guide to help local authorities make their communities more electric vehicle (EV) friendly will be released at the Local Government New Zealand (LGNZ) Conference in Christchurch.

**Driving a Low Emissions Economy** summarises the environmental, social and economic case for EVs, provides advice on operational and long-term planning, and outlines practical steps councils can take to help New Zealand transition to a low emissions economy.

## July 6

### Electrics launch Greater Wellington bus fleet

Wellington's new battery powered buses mark a major step toward a 21st century public transport system for the region.

**So says Greater Wellington Regional Council chairman Chris Laidlaw at the launch of its new Metlink bus network on July 5.**

## July 9

### EVs' high cost puts off Government buy

Government departments are dragging their heels on converting a fleet of more than 25,000 vehicles to electric.

**The high cost of new EVs and the charging infrastructure are being blamed.**

While the Government wants its fleet electrified by 2025, public service leaders aren't keen to make the switch until the cost comes down, [Newsroom.co.nz](http://Newsroom.co.nz) reports.

## July 11

### Women will drive switch to EVs – study

Highly educated women are an untapped but potentially lucrative market for electric vehicle sales.

**That's because they have greater environmental and fuel efficiency awareness than men, according to a new study by researchers at the University of Sussex and Aarhus University in Denmark.**

## July 12

### Cheaper batteries and more renewable power will boost EVs – report

Falling battery prices and growing use of renewable energy like solar and wind will pave the way for soaring electric vehicle uptake.

**That's the expectations outlined in Bloomberg New Energy Finance's forecast – *New Energy Outlook 2018*.**

Estimates show lithium-ion battery prices decreased by about 80% between 2010 and now.

### Sixty Kiwi firms commit to emissions cuts

A new Climate Leaders Coalition of 60 businesses has committed to cutting greenhouse gas emissions and leading the way to a low-carbon economy.

**Firms involved in transportation and energy feature heavily.**

A 13-member chief executives, leadership group includes Ports of Auckland, KiwiRail, Toyota, Air New Zealand, Fonterra and Z Energy.

## July 13

### National EV association launched

The newly launched Electric Vehicle Association of Aotearoa (EVAA) is already attracting interest.

**Created by EV owners for EV owners, the 100% independent association had 50 people sign up in the first 30 minutes of its official launch announcement on July 13.**

It's free to join, although members who would like to may provide a koha or donation to help with initial funding through the association's patron page.

## July 16

### Auckland Council buys 10 EVs

Ten new electric vehicles have been added to the Auckland Council's fleet.

**That will bring its EVs to 14, including the mayor's EV, in the council's total fleet of 790.**

All the new EVs are Hyundai Ioniqs and form part of the council's general pool.

### Electric bike market US\$30 billion by 2025 – report

Electric bikes are set to become a more than US\$30 billion market within seven years.

**Increasing urbanisation and a desire to move away from cars for motorised transportation are opening opportunities for low speed electric vehicles (LSEVs), particularly e-bikes and e-scooters, a new report says.**

## July 17

### EVworld NZ set to buzz

Industry forums are a new addition to the EVworld NZ conference and expo in Auckland.

**The Conferenz organised event is expected to attract thousands of people to the ASB Showgrounds in Auckland from August 9-11.**

The first two days are trade

days, followed by a free public day on August 11.

### Massive EV charging uptake

ChargeNet NZ has experienced an almost 300% increase in electric vehicle (EV) charging sessions in the year to June 2018.

**This impressive growth in charging sessions has been off the back of the exponential uptake of EVs in New Zealand, almost 120% over the year, as well as the spread of ChargeNet NZ's nationwide network of DC rapid charging stations. Some 44 rapid chargers have been added over that year.**

ChargeNet NZ's DC rapid charging network, which sits at almost 100 chargers across the country, is complemented by an expanding network of AC chargers which increased from one to 16 over the same time.

## July 18

### Real time charging information database launched

EVRoam, a new system providing real-time charging information to electric vehicle users, has been launched.

**EVRoam is a live database, collated by the NZ Transport Agency (NZTA) from real-time data fed directly from charging station operators such as ChargeNet NZ and Vector. EVRoam then shares this information out as widely as possible, to dozens of other websites and apps, so that drivers can receive reliable data on charging stations through all channels.**

"This is about giving people the practical tools to confidently drive an electric car right around the country and know they have the power to go the distance," says associate minister of transport **Julie Anne Genter**.

## July 19

### Electric scooters in footpath rules review

Continued on page 31



Continued from page 30

## - Genter

Increasing use of micro electric vehicles such as e-scooters has prompted a review of rules around their use on pathways.

**"The Ministry of Transport is reviewing footpath rules to consider what types of vehicles should be allowed to use the footpath and in what ways," associate minister of transport Julie Anne Genter says.**

## July 21

### Suppliers defend Leaf fix

The Motor Industry Association has expressed concern over the safety of a locally-adapted software patch for the 30kW Leaf – but the suppliers are defending their work.

**The fix is to issues with the battery management system**

**software which may cause the health of the battery to be incorrectly indicated.**

Motor Industry Association chief executive officer David Crawford contacted *EVtalk* to express concern over the fix. He has made similar communications to other government and industry organisations.

## July 23

### New fast charger comes on to NZ market

Future-ready infrastructure for fast charging electric vehicles is being put together by YHI (New Zealand) Ltd.

**The 150kW Delta Ultra Fast Charger is being trotted out here and you can find out more about it at YHI's EVworld NZ stand at the ASB Showgrounds in Auckland from August 9-11.**

The 1000-volt technology offers higher power charging to support a rapidly increasing number of EVs with the capability of extended driving range and higher battery capacity.

## July 25

### EV owners need to pump up

Most electric vehicle owners should put some more air in their tyres.

**Nearly two thirds (64%) of the 512 EV owners who responded to the latest Flip the Fleet survey report they only check their tyre pressure every six months or so, or even less frequently.**

Six per cent never check their tyre pressure. Hopefully, their mechanic does it for them during routine servicing and warrant of fitness checks, citizen science group Flip the

Fleet says.

## July 30

### Thousands of e-bikes and drones not covered by insurance

Kiwi electric bike and drone owners are being warned to check their insurance policies as one expert cautions the industry hasn't kept pace with new technologies.

**Simon Moss, partner services manager of NZbrokers, one of the country's largest insurance brokerage groups, says analysis of home contents policies found significant complexity and variation in wording – leaving many e-bike and drone owners unexpectedly without cover for loss, damage or third-party liability. ■**



### EV TALK DIARY

EVtalk Australia editor Geoff Dobson looks at the month gone by on [www.evtalk.com.au](http://www.evtalk.com.au)



## July 6

### EV target needed

The Electric Vehicle Council wants Australia's federal government to set an electric vehicle target.

**It says there's no over-arching EV policy at the federal level.**

### Senate EV committee plugged in

The new senate select committee on electric vehicles says its "plugged in and ready to charge".

**Led by senator Tim Storer, the committee comprises deputy chairman Kim Carr, David Bushby, Janet Rice, David Smith and Dean Smith.**

## July 10

### EV working group

### considers freight impact

An Electric Vehicles Working Group has been formed by the Australian Logistics Council (ALC) to consider the full impact this rapidly-evolving transport solution will have on the movement of freight in the years ahead.

**The group's initial membership will include representatives from Linfox, Woolworths, DHL Australia, Australia Post and a number of other ALC member companies.**

## July 16

### Hybrids and EVs on buyers' interest list

More than half of Australians looking for a new car are tempted by a hybrid or pure electric vehicle.

**Roy Morgan research**

shows of the 37,000 drivers surveyed, 51.6% say they would consider a hybrid vehicle in their next purchase, up from 48.7% in 2015.

## July 17

### Australia may lead li-ion battery recycling - CSIRO

Australia could lead the world in reusing and recycling lithium-ion battery waste.

**That's according to a new report from the Commonwealth Scientific and Industrial Research Organisation (CSIRO), titled *Lithium battery recycling in Australia*.**

## July 23

### Optimistic outlook for Australian EV uptake

Almost two-thirds of Australians may own an electric vehicle (EV) within a decade.

## July 25

### Australian team wins US solar race

A Western Sydney University team has won the American Solar Challenge (ASC), becoming the first international and first Australian solar car crew to do so.

**Their electric vehicle Unlimited 2.0 won four out of five stages of the gruelling 2800km race across four US states from Nebraska to Oregon.**

## July 26

### Purchase price counts against EVs

The purchase price is a key reason Australians are not rushing to buy a new electric vehicle (EV).

**That's according to a new report from RACQ. ■**




# EV CHARGING LOCATIONS

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FORWARD TOGETHER

## Fast / Super Charger Locations – North Island

<b>Kaitiaki</b>	Te Ahu, 28 South Rd	<b>Te Awamutu</b>	10 Scout Lane
<b>Kerikeri</b>	1 Butler Rd	<b>Whakatane</b>	i-Site, 30 Quay St
<b>Oponohi</b>	Four Square, 29 SH12	<b>Opotiki</b>	i-Site, 70 Bridge St
<b>Kaikōhe</b>	Library Carpark, 14 Marino Pl	<b>Te Kaha</b>	Te Kaha Bch Res, 3 Hotel Rd
<b>Kawakawa</b>	4 State Highway 1	<b>Te Araroa</b>	22 Rata St (25 kWh)
<b>Tikipunga</b>	Paramount Plaza, 1 Wanaka St	<b>Rotorua</b>	1134 Haupapa St
<b>Whangarei</b>	11 Alexander St	<b>Matawai</b>	6522 Matawai Rd
<b>Raumanga</b>	McDonalds, 130 Tauroa St	<b>Tolaga Bay</b>	43 Cook St (25kWh charger)
<b>Dargaville</b>	Totara St Park, 113 Totara St	<b>Te Kuiti</b>	New World, 39 Rora St
<b>Kaiwaka</b>	1 Kaiwaka-Mangawhai Rd	<b>Murupara</b>	Pine Drive Car Park, Pine Dr
<b>Warkworth</b>	New World, 6 Percy St	<b>Taupo</b>	Firestation, 1 Kaimanawa St
<b>Warkworth</b>	BP, 67 Auckland Rd (SH1)	<b>Taupo</b>	Tesla, 1 Kaimanawa St
<b>Orewa</b>	New World, 11 Moana Ave	<b>Gisborne</b>	21 Gladstone Rd
<b>Silverdale</b>	17 Hibiscus Coast Hwy	<b>Morere</b>	Hot Pools, 3968 SH2 (25 kWh)
<b>Albany</b>	The Warehouse, 186 Don McKinnon Dr	<b>Rangitaiki</b>	Lodge Café, 3281 SH5
<b>Rosedale</b>	McDonalds, 14 Constellation Dr	<b>Turangi</b>	1 Pihanga St
<b>Kumeu</b>	New World, 110 Main Rd	<b>New Plymouth</b>	66 Courtenay St
<b>Henderson</b>	Pak'n'Save, 224 Lincoln Rd	<b>Wairoa</b>	75 Queen St
<b>Akld CBD</b>	Vector, 21 Hobson St	<b>Putorino</b>	5466 State Highway 2
<b>Beach Rd</b>	Z Station, 150 Beach Rd	<b>National Park</b>	Four Square, 4354 SH4
<b>K Road</b>	Tesla, 501 Karangahape Rd	<b>Te Haroto</b>	Mc Vicar Rd, 4237 SH5
<b>Newmarket</b>	1 Gillies Ave	<b>Waiouru</b>	Cnr SH1 & Hassett Dr
<b>Greenlane</b>	McDonald's, 320 Gt Sth Rd	<b>Hawera</b>	Pak'n'Save, 54 Princes St
<b>Pakuranga</b>	BP, 322 Pakuranga Rd	<b>Napier</b>	206 Dickens St
<b>Botany Downs</b>	Z Station, 550 Te Irirangi Dr	<b>Hastings</b>	100 Queen St W
<b>Akld Airport</b>	Shopping Ctr, George Bolt Mem. Dr	<b>Mangaweka</b>	Papa Cliff Café, 2 Koraenui St
<b>Akld Airport</b>	Z Skyway, George Bolt Mem. Dr	<b>Whanganui</b>	Pak'n'Save, 167 Glasgow St
<b>Takanini Vill.</b>	30 Walters Rd	<b>Waipukurau</b>	34 Russell St
<b>Takanini</b>	Pak'n'Save, 345 Great South Road	<b>Dannevirke</b>	24B Gordon St
<b>Coromandel</b>	44 Woolams Rd	<b>Woodville</b>	i-SITE, 43 Vogel St
<b>Whitianga</b>	4 Lee St	<b>Palmerston Nth</b>	i-SITE, 126 The Square
<b>Tairua</b>	Carpark, 6 Tokoroa Rd	<b>Palmerston Nth</b>	Tesla, 365 Ferguson St
<b>Pukekohe</b>	King Street Carpark, 56 King St	<b>Levin</b>	New World, 21 Bath St
<b>Pukekohe</b>	Counties Power, 14 Glasgow Rd (Bus hrs)	<b>Otaki</b>	New World, 155-163 Main Hwy
<b>Waiuku</b>	Kitchener Rd Carpark	<b>Masterton</b>	Queen Elizabeth Park, 3 Dixon St
<b>Thames</b>	505 Mackay Street	<b>Porirua</b>	2 Serlby Pl
<b>Whangamata</b>	100 Hetherington Road	<b>Featherston</b>	SuperValue, 42 Fitzherbert St
<b>Hampton Downs</b>	Gate 1, Motorsport Park	<b>Upper Hutt</b>	24 Queen St
<b>Te Kauwhata</b>	16 Wayside Rd	<b>Lower Hutt</b>	Dowse Art Museum, 1 Stevens Gr
<b>Waihi</b>	New World 35 Kenny St	<b>Petone</b>	Z Station, 60 Hutt Rd
<b>Te Rapa</b>	WEL Networks, 114 Maui St	<b>Te Aro</b>	Z Station, 174 Vivian St
<b>Hamilton</b>	Tesla, The Base, Te Rapa Rd		
<b>Hamilton</b>	Caro St Carpark, 7 Caro St		
<b>Ruakura</b>	Waikato Innov. Pk, 9 Melody Ln		
<b>Raglan</b>	43 Bow St		
<b>Mt Maunganui</b>	Bayfair, 19 Girven Road		
<b>Mt Maunganui</b>	New World, 1 Tweed St (25 kWh)		
<b>Cambridge</b>	73 Queen Street		



-  Fast Charger Locations
-  Destination Charger Locations
-  Tesla Charger Locations

## Fast / Super Charger Locations – South Island

<b>Halswell</b>	New World, 9 Nicholls Rd
<b>Rolleston</b>	New World, 90 Rolleston Dr
<b>Lincoln</b>	New World, 77 Gerald St
<b>Little River</b>	4235A Christchurch Akaroa Rd
<b>Rakaia</b>	41 Bridge St
<b>Ashburton</b>	109 West St
<b>Tekapo</b>	Lake Tekapo Tavern, SH8
<b>Fairlie</b>	Opp. 53 Main St
<b>Geraldine</b>	Cox St Carpark, 14 Geraldine-Fairlie Hwy
<b>Twizel</b>	Events Ctr, 61 McKenzie Dr
<b>Timaru</b>	26A North St
<b>Omarama</b>	2 Sutherland Rd
<b>Omarama</b>	Tesla, Hot Tubs, 29 Omarama Ave
<b>Kurov</b>	Wynyard St
<b>Wanaka</b>	42 Ardmore St
<b>Queenstown</b>	Tesla, Remarkables Park Town
<b>Frankton</b>	302 Hawthorn Dr
<b>Cromwell</b>	i-Site, 2 The Mall
<b>Waimate</b>	125 Queen Street
<b>Oamaru</b>	Eden St Carpark, 3 Eden St
<b>Ranfurly</b>	31 Charlemont St E
<b>Alexandra</b>	9 Thompson St, Bridge Hill
<b>Hampden</b>	33 Lincoln St
<b>Dunedin</b>	Filleul St Carpark, 193 Moray Pl
<b>Milton</b>	Four Square, 207 Union St
<b>Roxborough</b>	22 Jedburgh St
<b>Lumsden</b>	Four Square, 14 Diana St
<b>Lawrence</b>	Four Square, 19 Ross Pl
<b>Winton</b>	New World, 293 Great North Rd
<b>Gore</b>	New World, 8 Irk St
<b>Balclutha</b>	23 Charlotte St
<b>Invercargill</b>	116 Esk St

