



The Leading the Charge tour of New Zealand starts on March 14.

#LeadingTheCharge



EVs ready to lead the charge again

Encouraging more Kiwis to drive an electric vehicle is the main aim of the Leading the Charge EV tour of New Zealand from March 14 to April 3.

Organiser the Better NZ Trust wants local champions and EV drivers to join in at their local event, to share their knowledge and enthusiasm and be part of the excitement.

This year's events will focus on getting members of the public behind the

wheel of the wide range of EVs taking part in the trip, trust chairwoman Kathryn Trounson says.

"We're also encouraged by the interest and support that the new Government has shown in the road trip and welcome its attendance at the various events held around the country."

The 5000km tour from Bluff to Cape Reinga promises to be bigger and better

Continued on page 10

INSIDE

French students start NZ EV tour
Who gets what in EECA grants
Grandad put him on to EVs
Riders on the Storm

3
4
9
15



3



15

New Leaf next autumn

The 2017 Nissan Leaf is expected to arrive in New Zealand by autumn next year.

Nissan New Zealand managing director **John Manley** believes the new generation Leaf will be available here towards the end of the April 1, 2018, to March 31, 2019 financial year.

He was at the Nissan Futures event in Singapore when the Leaf's sale in seven markets in Asia and Oceania, including New Zealand and Australia, was announced.

Manley also had a test drive of the new model, saying it's enjoyable, comfortable and responsive.

A variety of different specifications are available for the new Leaf, and Manley says Nissan still has to determine the best for the New Zealand market.

"A commitment has come from Japan on the new Leaf so we're really thrilled about that," he says.

"Once we work through the processes we will get more information to send out."

That includes pricing.

Manley says the response from potential customers has been "huge".

"The car's taken off like a rocket overseas."

About 40,000 orders have been taken in Japan and Europe alone.

The car's new electric powertrain

Continued on page 8



Drive your business forward with
provident insurance

Call Steve Owens now on 021 947 752

EVtalk

EVtalk Magazine is published by Auto Media Group
8/152 Quay Street, Limited.
P.O. Box 10 50 10,
Auckland City, 1030.
Ph. 09 309 2444.

EDITOR

Geoff Dobson
geoff@automediagroup.com.au
021 881 823

GROUP EDITOR AUTO TRADE TITLES

Scott Morgan
021 240 2402
scott@automediagroup.co.nz

BUSINESS MANAGER

Rachel Hadfield
021 778 745
rachel@automediagroup.co.nz

PUBLISHER

Vern Whitehead
021 831 153
vern@automediagroup.co.nz

MANAGING EDITOR

Richard Edwards
021 556 655
richard@automediagroup.co.nz

GENERAL MANAGER

Deborah Baxter
027 530 5016
deborah@automediagroup.co.nz

Auto Media Group Limited makes every endeavour to ensure information contained in this publication is accurate, however we are not liable for any losses or issues resulting from its use.

Printed by: Alpine Printers.

automedia
GROUP LIMITED

evtalk.co.nz

evtalk.com.au

autotalk.co.nz

autotalk.com.au

transporttalk.co.nz

transporttalk.com.au

wheeltalk.co.nz

identicar.co.nz

EVtalk

EVtalk

autotalk

autotalk

transporttalk

transporttalk

wheeltalk

identicar

EVtalk acknowledges the support of our foundation sponsors:



**DRIVE
ELECTRIC**



Heloise de Bokay, left, and Solene Trinquet with the article in *EVtalk*.



Trinquet, left, and de Bokay with the electric Jucy campervan.

Electric tourists hit the road

Two French students have finally set off on their seven-month "ecoelectric" tour of New Zealand, thanks in part to *EVtalk*.

We publicised the 23-year-olds' plans to check out EVs and sustainability here in our October magazine.

That caught the attention of tourism rental company Jucy, which plans to introduce a new category of electric vehicle to its fleet to meet growing demand from environmentally minded tourists.

It's resulted in Paris-based students **Heloise de Bokay** and **Solene Trinquet**, getting the keys to an all-electric Jucy campervan – a prototype Nissan eNV200 – during most of their stay.

The van has a range of about 100km and can use different types of charging plugs but the pair aim to remain within about a 70km range where possible.

"Electric vehicles are the future of the Jucy camp-

ervan fleet and this trial is the ideal platform to test our product offering for customers," Jucy chief executive **Tim Alpe** says.

The students arrived in Auckland on January 12 and went about organising their tour, honing up on New Zealand's road rules and setting up destinations, communications, school visits and more before hitting the road in the first week of February.

They'll be joining the Leading the Charge EV tour of New Zealand for about four days and have set up a partnership with ChargeNet for the duration of their stay.

The two good friends intend to start the South Island leg of their journey in March and hope to finish off parts of the North Island by the end of June before returning home.

Trinquet and de Bokay will not only visit picturesque places such as Zealandia eco-sanctuary in Wellington but will also check out sustainable living programmes,

permaculture developments, car-sharing schemes, learn about Maori culture, investigate plastic bag recycling, and establish French and New Zealand school exchanges.

They've already created a partnership with Kapiti School with an exchange of letters between French and New Zealand children. They are keen to meet other schools as well.

Both are travelling during a gap year in their university studies.

Environmental law student de Bokay and communications student Trinquet say the trip is not part of their studies but a personal project they've created on their own over two years. They plan a documentary once their journey is completed.

They have four key questions for many people they meet, such as their opinion on the future of EVs in New Zealand. The idea is to have an overview of the different viewpoints at the end of the

journey.

"The goal is not to make money (they worked for two years and have fundraised and gained sponsorship to cover their costs) but to make people more aware," Trinquet says.

They believe electric tourism is the future for New Zealand.

"Petrol is very expensive here," de Bokay says. "In an EV it's quiet so you can travel to wildlife places and hear the sounds around you."

Zero emissions travel is good for the environment too, they say.

Their roles are very complementary – de Bokay has the knowledge of environmental subjects and Trinquet knows how to present those subjects in an attractive way – and they are very good friends, essential when spending so much time travelling together, especially in a campervan.

Both admit it will be hard to return to Paris, probably to

Continued on page 20



Dr Megan Woods and EECA chief executive Andrew Caseley plug in at Zealandia eco-sanctuary in Wellington.

EV funding charging ahead

More electric vehicles will be on our roads and bus lanes through funding announced by energy and resources minister **Dr Megan Woods**.

A total of \$3.74 million has been provided for 20 projects under the third round of the low emission vehicles contestable fund, administered by the Energy Efficiency and Conservation Authority (EECA).

"These exciting projects include a 58-tonne fully electric truck to be used by Coda in Hamilton to shuttle Fonterra's dairy goods to the railway," Woods says.

The \$500,000 grant for freight optimisation firm Coda, in partnership with Zero Emission Vehicles and Bay Dairy, is to design and make an electric truck to run seven days during the peak dairy season.

Using the truck is expected to reduce CO₂ emissions by 71 tonnes a year.

"Projects like this are vital to show others in the heavy logistics and transport industry that electric trucks are not only viable but have very low running costs," Woods says.

Tranzit Group gets \$397,500 for drive-through fast-charging for electric buses at Wellington Railway Station. Four buses will be able to be charged simultaneously.

Tranzit is introducing 10 electric buses in central Wellington around mid-year, with 22 to follow over three years. The fast-charging will allow Tranzit to run electric buses on six additional routes.

Woods says \$1.7m of the funding will help fill gaps in the country's charging infrastructure. Funding is also going towards tourism opportunities such as electric campervans.

Tourism Holdings receives \$402,000 to convert an electric van into a campervan, invest in charging equipment at holiday parks and develop itineraries with charging stations at 100km intervals.

The group plans to have 20 electric campervans available within a year.

Also on the van front, the Zealandia Karori Sanctuary Trust gets \$118,137 to replace diesel buses with electric shuttles that will run between the sanctuary and Wellington city centre 364 days a

year.

Kaitake Farm has been granted \$11,693 to buy an electric van to deliver organic vegetables in Taranaki.

EV consulting and project management services company Evincible receives \$263,450 for an electric courtesy car and a charging station associated with 25 automotive workshops, giving customers a chance to test drive an EV.

Flip the Fleet will put its \$88,583 grant towards efficiencies in its service, including making it easier for people to sign up and contribute.

The Kerikeri Retirement Village will buy four EVs for residents and staff use, plus a charger, with its \$67,250 grant.

And Auckland's Ohomairangi Trust gets \$75,000 towards buying six EVs for teachers, therapists and specialists to visit whanau.

"The projects we are funding show there's an EV for almost every job or use in New Zealand, be it delivering fruit and veg or taking a holiday," Woods says.

A Motor Industry Training Organisation (MITO) project to develop a qualifications framework for mechanics

Continued on page 20

Where do dead batteries go?

With electric vehicles increasing in New Zealand, will we end up with piles of dead batteries?

That's the question readers like Palmerston North city councillor **Brent Barrett** want answered.

He was pleased to read in our last issue about the import breakthrough for EV batteries achieved by the Imported Motor Vehicle Industry Association (VIA).

But he says councils would be in a stronger position to promote EVs if they had the confidence "we weren't going to end up with heaps of dead batteries around our cities in a few years' time".

EV batteries can be refurbished and returned to use in EVs, VIA technical manager **Malcolm Yorston** says.

"Like Brent, I think we are all concerned about our environment and want to minimise or completely eliminate any environmental damage that could be caused," Yorston says.

"We need to do our best to ensure that these valuable resources do not go into the waste stream."

Yorston says people are already working on refurbishing EV batteries for reuse and, as battery technology keeps improving, they will become more sophisticated - lasting longer, reducing in size and weight, and increasing in capacity and performance.

If battery health degrades to the point it is no longer viable for use in an EV, the battery can be repurposed to last for many more years by storing power generated from solar cells on the house



roof or small wind turbines, he says.

They can also be used for back-up power storage. One electricity company has been talking about using trailer-loads of used EV batteries as a form of portable power generator, for instance.

"Once the batteries have degraded to the stage they are unfit for storage purposes, they will be able to be recycled into their component elements," Yorston says.



Malcolm Yorston

"There are opportunities for people to recycle and reuse them."

There are a "plethora" of ways of checking battery health to see if EV batteries can continue or

whether they need to be repurposed or recycled, he says.

"People shouldn't just rely on one application."

There will be ways of exporting batteries for recycling or they could be reused or recycled here.

"There are United Nations conventions on the shipping of lithium-ion batteries but enterprising individuals are already looking at how to effectively and safely manage the shipping to recycling facilities.

"I am sure others will be looking at adding value onshore by reclaiming the component elements and either exporting these or reus-

ing them in New Zealand."

An expert in the battery power and storage field, Carl Barlev of Blue Cars Auckland, has been refurbishing EV batteries for the past two years and says they are too valuable to just dump.

They can often be reused and after a few years of use can probably gain another five years of life as power

storage, he says.

"That is just delaying their disposal but they contain valuable metals such as lithium, copper and aluminium which can be separated out."

Barlev says he's had "no problem" sending dead batteries to China for recycling.

Although recycling could perhaps be done in New Zealand, Barlev believes it might not happen here because China can do it easily and more cheaply.

By rebalancing EV batteries or replacing cells and modules in battery packs with better ones, Barlev says he can often recover 20% of lost range and extend the battery pack's life another two to four years.

"I see no problem (with batteries) whatsoever." ■

NEED AN SD CARD FOR A JAPANESE NISSAN LEAF?

ONLY \$450



COMPLETE JAPANESE HEAD UNITS WITH SD CARD AVAILABLE

SUITABLE FOR 2012 - 2015 GENERATION 2

AUTOLINK EV

FREE CALL: 0800 378 9090 WWW.AUTOLINKCARS.CO.NZ

Whole new ball game for insurers

Big changes in transportation, such as increasing electric vehicle ownership, have many insurance companies reviewing their business models and policies.

It's not just EVs either, with driverless vehicles and so-phisticated new technology also having to be considered.

Many EV owners have said on Facebook pages they have had little problem getting insurance.

However, some anecdotal reports say, for instance, that one EV insurance enquiry prompted a question on the vehicle's cc rating while another was told an EV was high risk.

That might come down more to staff training and improved familiarity with EVs and other technology changes.

Insurers don't yet have a history of claims around EVs to give them a record to work from.

One of the main differences at this stage is that EVs tend to cost more than many conventional vehicles to repair.

"The bottom line is that they cost more to fix," O'Connor Warren Insurance Brokers director **Eamon O'Connor** says.

"We understand some insurance companies are building that into their policy model so premiums may be higher in some cases."

O'Connor says insurance firms will have a better idea once true trends emerge.

"This is a whole new ball game," Provident Insurance chief executive officer **Steve Owens** says.

His company recently acquired auto underwriting

business Co-op Insurance NZ and is developing new systems for policy generation and management to ensure it's a seamless experience for their dealer clients.

"We are also working with our actuaries to better understand the product, the risks, adequacy of pricing, along with service and repair efficiencies to be gained

from our support network," Owens says.

"And it's not only electric vehicles that we need to consider, as new technology is rapidly being introduced to internal combustion engines (ICE), the introduction of autonomous vehicles and shared ownership/use of vehicles are all additional risk factors that will potentially impact on insurance premiums.

"We haven't got a history to go on in many cases so we have to work with the data we've got and build on that over time."

Even though a vehicle might be propelled differently, it has a driver whether it's an EV or an ICE.

"I don't believe the driver of an EV will behave any differently on the road from a driver of an ICE vehicle but everyday claims such as windscreens and wing mirrors are becoming increasingly more complex as more technology is built into these components," Owens says.

"A wing mirror, for example, is no longer just the simple rear vision mirror you used to put your hand out the window to adjust. Some now have sensors, indicator lights, demisters and internal

mechanisms which alone can cost thousands to repair or replace."

Although it's early days for autonomous vehicles in New Zealand, with the first likely to be shuttle services on internal airport roads, for example, Owens believes insurance issues around them will also have to be considered.

Questions arise around liability, particularly if there's an accident involving a driverless shuttle and human-driven vehicle.

Some overseas insurance companies are already talking about this as few or no regulations are in place to provide the answers, especially around who will own the risk.

New insurance measures for self-driving vehicles are proposed in the United

cover for loss or damage to home charging equipment, full glass coverage (including panoramic roof), key cover if lost, damaged or destroyed, and discounts on AA Road-side Assist and on selected AA driver training courses.

A new car replacement is offered after a total loss (up to 24 months or 40,000km).

Vero says SMART repair shops in two locations can improve turnaround times for low to medium collision damage.

Infrared paint-drying technology removes the need to disconnect the car's battery.

The company has a nationwide network of approved repairers and a lifetime guarantee of repairs if using them. An optional rental car reimbursement is available too.

Tesla aims to include insurance and maintenance in the price of future vehicles.

Its more-affordable Model 3, which includes Tesla safety features and self-driving technology, is expected to help lower insurance premiums for some customers.

AA Insurance covers electric and hybrid vehicles in the same way it covers traditional vehicles.

The only exceptions at this stage are vehicles with carbon fibre chassis, which require specialist repair technology. But AA Insurance is now working with specialists to offer repair facilities next year.

The company also covers Teslas, which are semi-autonomous. Cover for fully autonomous vehicles is being worked on, in line with market availability. ■



Steve Owens



Insuring EVs appears to be no problem for many owners.

Kingdom under its Vehicle Technology and Aviation Bill, for instance.

Manufacturers might self-insure to cover liability and customise insurance products based on their own data.

Tesla, for example, has its own insurance under Insure-MyTesla. It's underwritten in New Zealand under a partnership with Vero Insurance.

Vero's website says Tesla insurance features include competitive pricing, 20% excess reduction after 90 days,

DRIVE ALL DAY, SAVE ALL NIGHT.

With Mercury's Plug-in Vehicle Fuel Package you can re-charge your EV at home and save 20%* on your entire home's electricity costs from 11pm-7am. It's just another way we're making energy more wonderful.

Visit mercury.co.nz/ev to find out more.

*The 20% discount is applied against your standard Mercury variable electricity price between 11pm - 7am (standard electricity prices will apply during other hours). See full terms at mercury.co.nz/ev.

Energy made
Wonderful

Mercury 



New Leaf next autumn

Continued from page 1
delivers 110kW of output and 320Nm of torque, improving acceleration and driver enjoyment.

"There's increasing demand globally for EVs," Manley says.

Nissan is working to bring the new generation of the world's best-selling electric vehicle to as many markets as possible, company regional senior vice-president **Yutaka Sanada** says.

"The New Nissan Leaf is the most advanced, yet accessible 100% electric vehicle on the planet," he says.

"The launch in so many markets shows our commitment to playing a leading role in electrification in this dynamic region, and to delivering the future of mobility to the region now."

The Nissan Future theme was *The Future of Mobility – Electrification and Beyond*. Industry leaders, government officials and media from across Asia and Oceania attended the three-day event.

Discussion included how to create a sustainable future

through vehicle electrification and how to make advanced driving technologies more accessible.

Strong underlying demand suggests the market for electric vehicles has the potential to grow exponentially in Southeast Asia, according to



research released by Frost & Sullivan.

Nissan has sold more than 300,000 Leafs globally since the model first went on sale in 2010.

The company introduced the fully redesigned Leaf in September 2017, with a suite

of advanced technologies, including the e-Pedal system for one-pedal driving.

It also features increased power and range, and improved refinement, comfort and convenience.

Deliveries began in Japan in October 2017, followed

Leafs and they are the most popular here in that category.

Leaf sales helped push total EV numbers in New Zealand to 6603 in January, closing in on the 8000 target by the end of this year.

Nissan sells more than 60 models under the Nissan, Infiniti and Datsun brands.

During the 2017 fiscal year, the company embarked on Nissan M.O.V.E. to 2022, a six-year plan targeting a 30% increase in annualised revenues to 16.5 trillion yen.

As part of M.O.V.E., the company plans to extend its leadership in electric vehicles.

Nissan has a global workforce of 247,500 and has partnered with French manufacturer Renault since 1999. In 2016, Nissan acquired a 34% stake in Mitsubishi Motors.

Renault-Nissan-Mitsubishi is today the world's largest automotive partnership, with combined annual sales of more than 10 million vehicles a year. ■

HRV moves to solar for EV revolution

EVs are poised to become a significant part of New Zealand's transport mix as car makers gear up to stay ahead of demand.

They could also be helping to power our homes.

The current reduction in prices, improved travel ranges and increasing product choice should see the uptake of EVs increase substantially in New Zealand from the current 6600 on our roads.

Overseas predictions

suggest that while that number is small, a tipping point is just around the corner.

Speaking to an audience of business and government leaders in Wellington, Stanford University clean energy expert **Tony Seba** predicted it will be cheaper to produce a mid-range EV than a combustion engine vehicle as early as the end of this decade.

Once the economics of production favour EVs, the speed of change in

transport could easily be as swift as the transition from horse and cart to internal combustion in the early 20th century – less than 20 years.

Where this gets truly interesting is the convergence between EVs and other technologies, such as battery storage.

That's why HRV's parent company Vector is pioneering Vehicle-to-Grid (V2G) and Vehicle-to-Home technology in New Zealand.

These are essentially

two-directional chargers that allow vehicles to be charged or to reverse the energy flow and put it into homes, businesses or the electricity network.

Reverse charging technology is a game-changer for EVs because it transforms them into rechargeable and mobile energy hubs.

The implications of the technology are far-reaching. Connected to a V2G charger, an EV could

Continued on page 23

Young company with big EV ideas



HVS Motors' newly opened Dunedin yard.

Hamish Gardyne's 88-year-old grandfather encouraged him to develop his business HVS Motors around electric vehicles.

Ian Sime wanted an EV to run around Dunedin in so Gardyne imported a Nissan Leaf for him.

"He loves driving it," Gardyne says.

The HVS Motors director didn't need much convincing from his grandfather to become more involved in EVs for the business.

He set up his own mechanical workshop under Hamish's Vehicle Sales (HVS) at the age of 19 in 2008. He diversified the business in 2014, adding a sales yard and importing used Japanese vehicles.

Things have progressed from there.

Gardyne did the research on EVs and got on board early.

"I've always been interested in new technology," he says.

People didn't know a lot about EVs four or five years ago, but he believes that's all changed.

"The market's developed pretty rapidly in the last couple of years."

That helped encourage the business to expand into Timaru last April and into Kaikorai Valley in Dunedin in January this year.

Hamish married **Kaye** in 2015 and his wife has had a major role to play in the business. She started and managed the Gore sales yard then helped set up and develop the Timaru and Dunedin

branches.

"We've now got more than 40 staff," Gardyne says, which indicates how rapidly the business is growing.

Driving a Leaf himself, he often moves EVs to the various branch sites so he gets a great chance to see how they operate. He reckons they're super comfortable to drive, with low running costs.

The company deals in used imports, which Gardyne says represents good value for customers, especially until more used EVs become available and broaden the market with a variance of range and price.

He's watching with interest how Tesla goes, for instance.

The charging infrastructure around Gore could do with improvement though, Gardyne says.

ChargeNet were going to put a charging station in but were hit by delays.

"We have a free 32-amp charger for public use, a five to 10-minute walk from town, which is better than nothing."

Charging facilities are improving in the South Island all the time, so it's no surprise demand for HVS Motors' EVs extends beyond Invercargill and Central Otago.

"EVs will keep expanding exponentially," Gardyne says.

He believes the used car market will remain a big part of it in New Zealand.

All of the company's sales managers have had extensive training relating to EVs because they need to be able to answer any questions thrown at them, Gardyne says.



The EV line-up at HVS Motors in Timaru.

"Customers are now more knowledgeable about EVs than many were a few years ago.

"Early on, it was a hard pitch but people are more accepting of the change in industry and ideas."

Gardyne says his company is built on "keeping it simple and up front".

"We aim to provide the right products at the right price."

Visit **www.hvsmotors.co.nz** for more information. ■



#ttechconf t-TECH

**19-20 MARCH 2018
AUCKLAND**

**SEAMLESS TRANSPORTATION
MOBILITY SOLUTIONS
LIVEABLE COMMUNITIES**

Keynote Speaker



**Earlybird tickets
ON SALE!
Visit ITSNZ.org/t-tech**

Greg Lindsay
New Cities Foundation
(Connected Mobility Initiative)

EVs ready to lead the charge again

Continued from page 1

than last year's, with a high number of cars expected.

EV numbers are likely to swell with others joining parts of the tour, possibly doubling numbers again.

Stops are planned at 26 locations, from about two hours in Christchurch on March 17, two days in Wellington (March 22 and 23), and up to five days in Auckland (March 29-April 3) over Easter.

Various events are planned during the stops, with EV owners welcome to come along.

However, no record attempts for the number of EVs in one place are proposed this time. That might come later at another event.

Other contests and prizes are expected though.

The goal is to add more variety this

year, with a greater range of electric transport options.

Car-share groups will attend and EV owners will have displays along the route.

Two French students on a seven-month EV trip around New Zealand will join the tour for about four days in a Nissan eNV-200 camper van loaned to them by Jucy (see P3).

EVangelist **Chelsea Sexton** from California will be coming along for the entire ride too.

Nearly all the OEMs will be involved, doing rides and drives.

The road trip started in 2015 and was initially planned to tackle range anxiety head on and prove that an EV could drive up and down the length of New Zealand with relative ease - and a little careful planning, Trounson says.

Another important goal was showcasing the amazing range of EVs available to consumers.

"Since the first Leading the Charge Road Trip, ChargeNet has made the entire country accessible to electric vehicle owners and should be applauded for its 'build it and they will use it' mentality," Trounson says.

"As such, the planning of this year's trip was made so much easier for the shorter-range cars."

The trust's aim is to encourage the uptake of EVs as a way of reducing CO₂ emissions.

"The trust is not a car seller - we are the sizzle, not the sausage - and the fact that trust members take their personal cars over 5000km in this shows our dedication to the cause," Trounson says.

Continued on page 20

POWER DEALS FOR EV USERS

Company	Energy Deals	Where	Cost to charge LEAF*
 Mercury	Plug-in Vehicle Fuel Package Includes 20% off your entire home's electricity costs between 11pm - 7am every day, one year fixed term, 10% PPD is included in these calculations.	Auckland Wellington Christchurch	\$5.21 \$5.08 \$5.03
 meridian	Electric Car Plan Super-low night rates that start at the earlier time of 9pm, until 7am daily. Available for your entire home's electricity needs. Guaranteed for 3 years and includes 15% PPD.	Auckland Wellington Christchurch	\$4.49 \$3.79 \$2.55
Contact Energy	Freedom plan: 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	\$5.33 \$4.44 \$3.10
Ecotricity	Low Solar: Low Usage plan for EVs & can buy back solar energy, no fixed term	Auckland Wellington Christchurch	\$5.89 \$4.13 \$5.12
Electric Kiwi	One Plan with Hour of Power: 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	\$5.82 \$5.85 \$6.05
Flick Electric	Wholesale rates plus their Flick Fee: No fixed term, EV rate in Wellington. Calculated using an average spot price of 5.7c per kWh.	Auckland Wellington Christchurch	\$5.26 # \$3.21 # \$3.62 #
Genesis Energy	Classic plan: 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	\$6.01 \$3.73 \$3.29
Paua to the People	Cheap As Plan with EV night rates: No fixed term. Calculated using an average spot price of 5.7c per kWh	Wellington	\$2.96 #

*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. Flick Electric in Christchurch has higher daytime rates in Winter due to variable pricing from the lines company. The rates we have used above were calculated in July 2017 using a low user cost, overnight rates, includes 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.

Find your new EVs here!

EV FRANCHISE DEALER LIST

BMW

AUCKLAND CITY BMW

7-15 Great South Road
Newmarket Auckland 1051

WINGER BMW

138 Hutt Road, Kaiwharawhara,
Wellington 6035

CHRISTCHURCH BMW

30 Manchester St, Christchurch
Central, Christchurch 8011

MITSUBISHI

ARCHIBALD MOTORS

143 Commerce Street, KAITIA

PACIFIC MOTOR GROUP

70 Porowini Avenue,
WHANGAREI

SIMON LUCAS NORTH SHORE

Cnr Wairau & Target Road,
Takapuna, AUCKLAND

ANDREW SIMMS MITSUBISHI

500 Broadway, Newmarket,
AUCKLAND

AUCKLAND MOTORS MITSUBISHI

686 Great South Road,
MANUKAU CITY

ROGER GILL MITSUBISHI

Corner Manukau & Kitchener
Roads, Pukekohe, AUCKLAND

SAUNDERS MITSUBISHI

201 Pollen Street, THAMES

INGHAM MITSUBISHI

450 Te Rapa Road, HAMILTON

BAY CITY MITSUBISHI

140 Cameron Road, TAURANGA

PIAKO MITSUBISHI

254-256 Fenton Street,
ROTORUA

WINGS & WHEELS

85 Heu Heu Street, TAUPU

W R PHILLIPS

156-158 Devon Street West,
New Plymouth

WAYNE KIRK MITSUBISHI

19 Thackeray St, NAPIER

MCVERRY CRAWFORD

MITSUBISHI
29 Kimbolton Road, FEILDING

MCVERRY CRAWFORD

MITSUBISHI
2 Princess Street,
Palmerston North

WAIRARAPA MITSUBISHI

313 Queen Street, MASTERTON

BRENDAN FOOT MITSUBISHI

10 Railway Avenue, HUTT CITY

WELLINGTON MITSUBISHI

75-78 Cambridge Terrace,
WELLINGTON

HOUSTON MITSUBISHI

168 Rutherford Street, NELSON

HOUSTON MOTORS

42 Scott Street, BLENHEIM

CHRISTCHURCH MITSUBISHI

Cnr St Asaph & Montreal Streets,
CHRISTCHURCH

CAROLINE MITSUBISHI

23-27 Barnard Street,
TIMARU 7910

STEPHEN DUFF MOTORS

280 Andersons Bay Rd, South
Dunedin, Dunedin 9012

BALCLUTHA MITSUBISHI

79 Clyde St, Balclutha 9230

SOUTHERN MITSUBISHI

209-221 Dee Street, Invercargill
176 Dee Street, Invercargill

NEW EV CAR TYPES

MAKE	MODEL	TYPE	PRICING RRP est.	APPROX RANGE KMS
Tesla	Model S	BEV	\$121,395	350 - 540 km
	Model X	BEV	\$129,145	380 - 475 km
Renault	Zoe 40 kWh	BEV	\$68,900	300 km
	Kangoo van	BEV	\$74,990	160 km
Hyundai	Ioniq	BEV	\$59,990	220 km
	Ioniq Elite	BEV	\$65,990	220 km
Volkswagen	e-Golf	BEV	\$61,990	220 km
BMW	i3 - Full Electric	BEV	\$76,900	200 km
	i3s	BEV	\$84,300	200 km
	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
	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
Mini	Countryman	PHEV	\$59,900	30km + 500 km
Mitsubishi	Outlander	PHEV	\$60,990	50 km + 500 km
Audi	A3 Sportback e-tron	PHEV	\$69,900	45 km + 600 km
	Q7 e-tron	PHEV	\$158,400	54 km + 800 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
Volvo	XC90 T8	PHEV	\$134,900	44 km + 600 km
	XC60	PHEV	\$94,900	45 km + 600 km

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

Do you sell EVs?

Talk to Rachel Hadfield
about advertising
your business here
with EVTalk

- in print
and online



Phone: +64 21 778 745 or
Email: rachel@automediagroup.co.nz

USED EV CAR TYPES

MAKE	MODEL	TYPE	PRICING RRP EST.	APPROX RANGE KMS
Nissan	LEAF Generation 1	BEV	\$8.5k - \$17k	120 km
	LEAF Gen 2 - 24 kWh battery	BEV	\$16k - \$28k	135 km
	LEAF Gen 2 - 30 kWh battery	BEV	\$26K - \$41k	180 km
	LEAF ZE1 - 40 kWh battery	BEV	\$65k	250 km
	e-NV200 van	BEV	\$18.5k - \$26k	140 km
BMW	i3 Full Electric	BEV	\$38k - \$60k	200 km
Mitsubishi	i-Miev	BEV	\$8.5k - \$13.4k	100 km
	B-Miev Van	BEV	\$11k	100 km
Renault	Zoe 22 kWh	BEV	\$24k - \$30k	220 km
	Zoe 40 kWh	BEV	\$41k - \$48k	300 km
Hyundai	Ioniq	BEV	\$50k - \$57k	220 km
	Ioniq Elite	BEV	\$58k - \$66k	220 km
Kia	Soul EV	BEV	\$37k - \$38k	150 km
Volkswagon	e-Golf - 24kWh battery	BEV	\$40k	130 km
	e-Golf - 36kWh battery	BEV	\$61k - \$63k	200 km
Tesla	S 75	BEV	\$118k	350 km
	S P85	BEV	\$110k	350 km
	S 90D	BEV	\$169k	420 km
	X 90D	BEV	\$170k	410 km
Smart	Fortwo	BEV	\$18k - \$20k	100 km
Mercedes Benz	B250 e	BEV	\$47k - \$50k	140 km
	C350 e Sedan	PHEV	\$70k - \$74k	31 km + 700 km
	GLE500	PHEV	\$150k	30 km + 700 km
	E350 e	PHEV	\$120k	30 km + 600 km
	S500 e	PHEV	\$135k	30 km + 700 km
Toyota	Plug-in Prius	PHEV	\$17k - \$37k	26 km + 800 km
Audi	A3 Sportback E-Tron	PHEV	\$55k - \$65k	45 km + 600 km
	Q7 e-tron	PHEV	\$148k	54 km + 800 km
Mini	Countryman Cooper SE	PHEV	\$63k	30km + 500 km
BMW	i3 REX	PHEV	\$45k - \$65k	200 km + 150 km
	225xe	PHEV	\$55k	41 km + 550 km
	330e	PHEV	\$47k - \$66k	37 km + 550 km
	X5 xDrive40e	PHEV	\$140k	30 km + 800 km
	i8	PHEV	\$128k	37 km + 400 km
Mitsubishi	Outlander	PHEV	\$29k - \$68k	50 km + 500 km
Volvo	XC90 T8	PHEV	\$130k	44 km + 600 km
Porsche	Cayenne S e-hybrid	PHEV	\$135k	20 km + 750 km

BEV - Battery Electric Vehicle

PHEV - Plug-in Hybrid Electric Vehicle

Find your

USED DEALERS LIST

NAME	CITY
Cash Back Cars	Whangarei
Autolink Cars 09 378 9090 autolinkcarsltd@gmail.com	Auckland
GVI Electric 09 216 7106 ev@gvi.kiwi	Auckland
Wholesale Autos 0800 405 065 info@wholesaleautos.co.nz	Auckland
Harwood Cars 027 492 2218 www.harwoodcars.com	Auckland
PlugN Drive NZ	Auckland
Volt Vehicles	Auckland
Farmer Auto Village	Tauranga
EV Central 021 184 2157 inquiries@evcentral.co.nz	Taupo
Drive EV 027 521 0429 07 378 0082 steve@driveev.co.nz	Taupo
The Car Man	New Plymouth
Coventry Cars Hybrid & Electric 04 384 4536 salesteam@coventrycars.co.nz	Wellington
Gazley	Wellington
Cooper Auto Company	Wellington
The Car Company Nelson	Nelson
HVS Motors 0800 487 668 sales@hvsmotors.com	Timaru
Hopmans QEII Quality Cars 0800 HOPMAN (467 626) sales@hopmans.co.nz	Christchurch
Metro Christchurch 03 348 5855 chrisn@metrochch.co.nz	Christchurch
Stadium Cars	Christchurch
HVS Motors 027 677 3985 sales@hvsmotors.com	Dunedin
Auto Court 03 455 3000 info@autocourt.net.nz	Dunedin
Gilmour Automotive	Dunedin
HVS Motors 0800 487 4673 sales@hvsmotors.com	Gore



SPECIALISING IN 100% ELECTRIC VEHICLES FOR OVER 4YRS

LARGEST RANGE TO CHOOSE FROM IN NZ



FREE CALL: 0800 378 9090 **WWW.AUTOLINKCARS.CO.NZ**

ZERO EMISSIONS

Quality used EVs here!



EVCENTRAL

- 3 YEAR BATTERY WARRANTY AVAILABLE ON ALL MODELS
- FLEET SALES SPECIALISTS
- THE WIDEST RANGE OF EV MODELS IN NEW ZEALAND
- FREE NATIONWIDE DELIVERY

PHONE: 021 184 2157

EMAIL: inquiries@evcentral.co.nz

ADDRESS: 87 Tuwharetoa Street Taupo 3330

**Quality cars at better pricing
with simplicity of purchase**



Three handy locations

1 Huron Street, Gore, Southland

300 Kaikorai Valley Road, Dunedin, Otago

1 Hobbs Street, Timaru, South Canterbury

sales@hvsmotors.com

ph. 0800 487 4673

Ships nationwide. Finance & Mechanical warranties available



WHOLESALE AUTOS *Takanini*

ELECTRIC VEHICLES SPECIALISTS

Contact us for Gen1 and Gen2 Nissan Leafs
and Nissan NV200 vans

Open
Seven
Days



Wholesale Autos | www.wholesaleautos.co.nz
info@wholesaleautos.co.nz | P: 0800 40 50 65
272 Great South Road, Takanini, Auckland



HOPMANS QEII

QUALITY CARS

**SOUTH ISLANDS LARGEST NISSAN
EV AND HYBRID DEALER**

Over 50 Leaf – e-NV200 – Prius – E-Note

Outlander – Ignis – Camry – Harrier

In stock and on the water

Check out our full stock hopmans.co.nz/ev-electric

All electric vehicles include 1 year warranty + On road
costs + NZ charging cable

Cnr Travis Rd & Bower Ave
sales@hopmans.co.nz

0800 HOPMAN (467 626)
www.hopmans.co.nz

Full range of Support & Service | NZ's largest range of EVs | We ship nationwide



Contact our EV Expert Andrew on 021 454 287 | www.gvielectric.kiwi | 575 Great South Road, Penrose



MICRO EVS



We hit the trails on a Mercury-supplied ebike

Cycling the source

BY RICHARD EDWARDS,
MANAGING EDITOR
AUTO MEDIA GROUP

New Zealand's network of cycle trails is quickly becoming popular with tourists and locals alike - and in the Waikato you can try them out on an electric bike while checking out the source of your electric vehicle's fuel.

The Waikato River Trails are easily accessible in a Nissan Leaf from Auckland, with nearby fast-charging stations in Hamilton, Cambridge and Te Awamutu.

We headed down with our homebuilt e-bike and a rental supplied by power company Mercury to check them out.

The trails stretch for 103km in five sections along the riverbanks from the Karapiro area to Whakamaru. You could manage most of the trails on a city bike but a mountain bike is far more suitable.

Elevation changes are manageable for those with reasonable fitness - but an e-bike, makes it a heck of a lot easier.

Construction of the trails was started in the early 2000s by the Waikato River Trails Charitable Trust and

the network officially opened in 2011.

Trust general manager **Glyn Wooller** says Mercury has supported the trust since its formation and not just in making way around its generation facilities on the river.

"Being a charitable organisation, having a partner such as Mercury is an anchor for our project.

"The Mercury support is wide ranging, from housing our trail maintenance resources and supporting the Generator multisport event to helping with planting and transporting native trees, trust governance and critical funding for operations and marketing."

Its latest support relates directly to EVs. The trust has been given a Mitsubishi Outlander PHEV, and two electric mountain bikes with Mercury branding can now be rented for use on the trail. They cost \$100 a day, with a 50% discount for Mercury customers.

"For those thinking about buying an e-bike, this is a great try-before-you-buy," Wooller says.

"Rather than a quick

ride around the bike shop carpark, prospective e-bikers can have a real off-road experience before they invest."

Wooller is keen to encourage e-bikers - and EV drivers - to visit the trails. E-bikes make a lot of sense on the trails - you can go further, it is easier to go uphill and you sweat less, he says.

"We are fans of pedal-assist bikes, not so much the bikes that run by themselves... this is really about safety given the corners and general terrain of the trail.

"We want to see as many people across all ages and stages of life enjoying recreation and keeping fit. E-bikes help this cause."

There has been little adverse reaction from traditional riders to the arrival of e-bikes, other than a little banter, he says.

And that's how we found it in our time on the Arapuni section. The only comments we had from a non-e-bike user was that he wished he had one too.

Our ride began with a trip over the Arapuni wire bridge, soaring over the historic

Arapuni Power Station - no doubt the source of power for at least a few EVs in the upper North Island.

Then we rode north along the river on an undulating yet relatively easy cycle - especially on our Mercury supplied ebike.

Smart bike gates keep non-cycle-based vehicles off the track, and we found they accommodated larger e-bike frames and battery packs passing through.

There are no charging facilities, for either bikes or cars, along with the trail, but Wooller says that's something the trust is considering. But cafes are available for refuelling the rider.

Don't fall victim to riding too fast, because even this close to civilisation the scenery is impressive and the quiet relaxing.

Visit <http://www.waikatorivertrails.co.nz/> for more information on the trail.

Thanks to Renault New Zealand, which offers the Zoe and Kangoo EV models, for supplying a van to get us to the trails. □



MICRO EVS



Riding the Storm

The name "Storm Rides" conjures up some thundering beast of a motorbike.

But the machine with the company name on it we tried is a quiet electric "mobility scooter" known as the Storm Cruiser – although it does look like the Harley Davidson of that world.

It's got some juice too, clocking up to 40kmh on a limited run, although it doesn't have a speedo.

Reportedly, it can do 45kmh. There are three speed modes; the first is limited to 25kmh, two is the medium cruise speed at 35kmh and three top speed at about 45kmh.

A high-powered 1200W electric motor is tucked safely away in the wheel hub and the electronics are also hidden from the elements, so no worries about riding in the rain.

A right handlebar throttle provides the power, and plenty of it, while handlebar brake levers link to electronic ABS hydraulic disc brakes front and rear to ensure a rapid but easy stop.

"You know it's illegal on cycleways," a cyclist says while overtaking me on Auckland's Northwestern Cycleway as I kept to a slow pace.

"No, it's not," I replied. "It's a mobility scooter and as such can be used on cycleways or shared pathways, footpaths and even on the road so long as you stick hard left and wear a helmet."

I'd already checked the rules.

Although the Storm Cruiser complies with current rules, the whole classification around such e-mobility devices (including e-bikes) has yet to be determined.

Storm Rides says the Cruiser's classification is unusual and a symptom of new forms of personal transport running ahead of the legislation. It is seeking a more formal classification.

Glares from a few oncoming riders, gave every indication I wasn't welcome on their cycleways.

Perhaps it was the wide handlebars that made them feel nervous on the occasionally narrow dual cycleways, prompting me to keep the speed down – recommended where there's more



EVTalk Editor Geoff Dobson tries out the Storm Electric Cruiser.

people around. You must ride carefully and be considerate of others when on pathways.

Stormrides publicity material states: "This ain't your grandma's mobility scooter".

I agree. It would be handy to use, though, if you have a bad knee or foot or are recovering from minor injury.

You need some fitness to handle the Storm Cruiser. While it's super stable and has a low centre of gravity and seat height, plus an easy step-through deck, it requires a bit of balance at low speed (despite the fat wheels).

It weighs 58kg and can be tricky to manoeuvre at times. The Storm Cruiser took several goes to get in a lift, for example, but it did fit, and you can drag it a little with the rear bar.

Once you learn the technique, it's easy to get it on and off its spring-load-foot stand.

I charged the Cruiser at EVTalk's Quay St office and did the 23km to Swanson in West Auckland (about an hour's ride) with power to spare.

The centre console has three green battery power lights and I'd only used one, with the second flickering as I

powered home.

Recharging took a couple of hours.

I forgot to recharge fully for the 23km ride back to the office. About quarter of the way the green lights started going out or flickering.

Nursing it along and switching off the bright LED headlight with daytime running light might have helped but I made it all the way with the last green battery power light still on.

But it was rapidly running out of juice on the last steeper bits and literally needed a

Continued on page 22

MICRO EVS


NIUSCOOTERS
SMART SCOOTERS

NZ DEALERS WANTED

Call for info
021 536 668

hello@niuscooters.co.nz



Exercise. Enjoyment. Freedom.

Book your **FREE** test ride online at www.electrify.nz

electrify.nz

New Zealand's
Electric Bike Specialists

North Shore
Auckland City
Tauranga
Hamilton
Dunedin



Showrooms: AKL City: 09 8892019 North Shore: 09 211105070 Tauranga: 027 675 1521
Dunedin: 021 035 9820 Hamilton warehouse: 07 8080404

wattwheels

Check out our great
electric bike selection
starting from
\$2599



For more info or to find a dealer near you contact us at:
0800 311 011 | www.wattwheels.co.nz | sales@wattwheels.co.nz

**Experience the
Ride of Your Life!**



CONTACT US TODAY

021 685 026 / info@stormrides.nz / www.stormrides.nz

T-Tech takes in-depth look at future cities

The future of transport will be covered by New York-based **Greg Lindsay** as the keynote speaker at “T-Tech”, the Transport Innovation Conference organised by ITS New Zealand in Auckland on March 19 and 20.

The T-Tech programme will enlighten attendees on international ideas, trends and emerging technology.

It will also highlight New Zealand’s responses to the challenges and opportunities ahead, and some of the research, trials and world-class innovation taking place here.

A journalist, urbanist and futurist, Lindsay’s work is focused on how cities will change and make the most of opportunities from emerging transport technology and mobility solutions.

As T-Tech’s keynote speaker, Lindsay will lead a programme featuring several respected international speakers who ITS New Zealand have invited to share

their knowledge and experience.

He has been described as an expert on the future of travel, technology and urbanism by many, including the *New York Times*, *Washington Post*, *Wall Street Journal*, *The Guardian*, *USA Today*, *CNN*, *NPR* and the *BBC*.

He leads the “NewCities” Connected Mobility Initiative and is author of the report *Now Arriving: A Connected Mobility Roadmap for Public Transport*, sponsored by the Toyota Mobility Foundation.

He is also urbanist-in-residence at Urban-X — BMW Mini’s urban tech accelerator— where he oversees public programming.

In 2017, Lindsay worked with Intel to develop its *Passenger Economy* report, which estimated the economic opportunity of au-

tonomous vehicles (AVs) will reach US\$7 trillion by 2050.

He has also consulted with the Bloomberg Aspen Initiative on Cities and Autonomous Vehicles to help cities use AVs to further their public policy goals.

He has advised several international organisations including Samsung, Starbucks, Audi, Chrysler, Tishman

Speyer, British Land, André Balazs Properties, Emaar and Expo 2020, among others.

Lindsay speaks frequently about globalisation, innovation and the future of cities, most recently at Sandia National Laboratories, the United Kingdom Treasury, the OECD, Harvard Business School, the MIT Media Lab, Deloitte and McKinsey.

T-Tech is being held at the Pullman Hotel over two days and will cover transport technology, mobility solutions and “liveable” commu-

nities.

The conference aims to educate those taking part on how innovations could result in safety improvements, reduced pollution and better urban planning. The impact of changes in those areas has vast potential for economic gain, improving health, security, equality and liveability.

T-Tech is to be ITS New Zealand’s most ambitious event of the year with more than 200 people expected, representing government, transport and technology communities.

The 25th UTS World Congress 2018 is in Copenhagen September 17-21.

Meanwhile, expressions of interest are also being sought for the ITS World Congress 2019 in Singapore on October 21-25.

Visit www.itsnz.org for more information about T-Tech and ITS NZ, and www.itsworldcongress.com for more on the world congress. ■



Greg Lindsay

Busy schedule for road trip EVs

Details of South Island events during the Leading the Charge 2018 road trip:

Electric vehicles will assemble at Bluff’s famous yellow signpost on March 14 from 7.30am to 8am to begin their journey around the country.

The tour is due in **Invercargill** the same day, and will meet up with other EV

owners at PowerNet, 251 Racecourse Rd between 10am and 1pm.

A static display features in **Queenstown** on March 15. EVs will assemble outside Eichhart’s Hotel from 10am to 11.30am.

EV drives and rides are planned at 302 Hawthorne Drive in **Frankton** from noon to 2pm on the same day.

That will be followed by a stop in **Alexandra** at 9 Thompson St, Bridge Hill, from 4.30pm to 5.30pm.

Dunedin’s The Octagon will host an EV gathering from 8am to 1pm on March 16, with the road trip continuing to Timaru, meeting at 1 Hobbs St on the corner with SH1 from 4pm to 6pm.

Christchurch details have

yet to be finalised but EVs will gather there on March 17 from noon to 2pm.

Greymouth hosts the tour on March 18 at the Westland Recreation Centre, 83 High St, Greymouth, from 12.30pm to 3.30pm.

The **Richmond** charger at 11 McGlashen Ave, 13km south of Nelson, is the next stop from noon to 2pm on March 20. ■



A foot in the ITS door

A common saying in our industry, and perhaps others, is that "New Zealand is a standards taker, not a standards maker".

The rationale behind it is obvious; with such a small market and no domestic manufacturing, how can we force manufacturers elsewhere to comply with any standards we might make?

Instead, until recently, we have simply identified the international standards we can live with and allowed imported goods only from jurisdictions that enforce these.

For the most part, it has worked for us – the variety of options has empowered competition, benefiting consumers by pushing down prices.

Intelligent transport systems (ITS) offer an interesting problem. Since each of the major source jurisdictions (European Union, United States, Japan and China) are implementing their own ITS standards, it is likely New Zealand will end up with technology from all of them.

A myriad of technologies never designed to work together will be on our roads, on our waters and in our airspace.

Taking full advantage of them will require figuring out how to make them play well together – alongside whatever unique solutions we implement for New Zealand.

At VIA, we often classify technology as fitting into one of three categories:

Compatible technology – which can be both safely imported and taken advantage of (examples include automatic emergency

By **Kit Wilkerson**,
VIA analyst and
adviser, on behalf
of ITS NZ.



braking, mandated by other jurisdictions).

Not compatible – meaning technology that can be



safely imported but cannot currently be taken advantage of (an example is VICs, an e-payment system used in Japan).

Incompatible – technology that is both disruptive to New Zealand's infrastructure and cannot currently be of advantage (ITS Connect operating on 760 MHz, currently being developed in Japan, is an example).

Not compatible technology is very common in our imports. We're not getting any extra value from it but there is no real objection to importing it if other benefits exist.

With incompatible technologies we have three options; we either avoid them (and miss out on other potential benefits), we adapt our domestic infrastructure to be compatible, or we work to change the technology at the source.

The last option is where the real opportunity lies. By participating in the creation of international standards,

and perhaps even international regulations, we can advocate for New Zealand's situation.

Through education, we can promote New Zealand interests and encourage the development of technology that will work for us.

As well as an exciting opportunity to help influence global research and development, it also gives us a chance to stay aware of upcoming technologies and engage our Government to ensure compatibility through reasonable regulation.

Maybe just as importantly, early involvement gives us an opportunity to present New Zealand solutions, potentially showcasing Kiwi companies.

One place where we are already participating is with the International Standards Organisation (ISO) in their Technical Committee 204, the group tasked with developing international ITS standards.

I am an expert in Working Group 3, working on the data and mapping necessary for automated driving technologies.

Discussion in my working group is dominated by the interests of SIP-adus, a Japanese government-led initiative to develop autonomous vehicles.

Considering that such a large portion of New Zealand's fleet is made up of vehicles from Japan, it's significant that they are now able to take New Zealand's situation into account as they develop the technology.

Of course, neither the Americans nor the Europeans intend to use the

Japanese solution, nor are they co-operating with each other.

Each jurisdiction represents its domestic manufacturers and the interests of its respective states. This allows us to continue New Zealand's time-honoured tradition as a neutral, honest broker, while contributing constructively.

The risk of not participating is obvious. Consider the 760MHz issue. If New Zealand had been more active in standards development years ago, we could probably have secured a small segment of the 760MHz band in New Zealand for transport safety, as has been done in Japan.

That would have avoided the problems we face now and empowered us to take fuller advantage of developing safety technologies.

With the ease of communication the digital world brings, New Zealand no longer suffers the "tyranny of distance".

There is a real place for Kiwi "number 8 wire" ingenuity in the global disharmony of ITS solutions. ■

EVtalk

**Keep up with
the Electric
Vehicle
industry
news**

www.evtalk.co.nz

Introducing our new series on autonomous vehicles (AVs)

Autonomy: Fantasy vs reality

While Australian government ministers intend having a regulatory system for autonomous vehicles by 2020, New Zealand is still grappling with the issue.

We're promoted as a suitable driverless test venue, particularly as current legislation doesn't necessarily mean a driver has to be behind the wheel.

But a December Autonomous Vehicles Research Report says there's "large uncertainty surrounding the assignment of liability" and updated regulations would provide "clarity, transparency and confidence".

This *Autotalk Australia* report has lessons for us too.

National Transport Commission chief executive **Paul Retter**, who's spoken on autonomous vehicle regulation frameworks several times in the past two years, tells *Behind the Wheel* we're still some way off seeing hands-free motoring in the mainstream.

"Ministers have agreed to a goal of having an end-to-end regulatory system in place by 2020 to support the safe, commercial deployment of automated vehicles at all levels of automation."

"This is an important milestone. We want to give certainty to manufacturers by ensuring our regulatory system is flexible and responsive to encourage innovation," he says, while reassuring that little can proceed without enforcement.

Retter says national enforcement guidelines need adjusting so police have the ability to apply the road rules

to automated vehicles.

"These guidelines provide clarity around who is in control of a vehicle at different levels of automation."

"They also determine that having hands on the wheel is no longer an indicator of having proper control when conditional

automation is safely engaged."

AutoTalk spoke to Carsales head of strategy **Henny Durvall** about the shortening car buyer's journey late last year.

After her countless hours poring over mountains of consumer-focused data, one of her comments about the average person's perception of autonomous and electric vehicles stands out.

"I don't think anybody's actually told the consumer," she says.

"Lots of people working in the auto industry in Australia know they'll be prevalent. But lots of people I talk to just think it's not coming."

"It's a utopian ideal and it is happening but the consumer doesn't know about it. We haven't really started the communication and education process."

As last year began to wrap up, experts presented their thoughts on the reality of implementing autonomous vehicles in Australia at a small free public forum in Melbourne's CBD.

While there have been occasions when a Bosch-branded Tesla has been auto-piloted around Albert Park or a Volvo SUV cut driverless laps in Adelaide, the Austral-

ian public hasn't really seen much autonomous action.

Several things are keeping us from joining the fray, including regulation which, as the Transport Accident Commission (TAC) reminds us, is probably a good thing.

TAC road safety technical and policy manager **Samantha Buckis** says there's still a lot to get through.

"There are licensing changes, legislation changes, infrastructure changes that need to occur in order to facilitate autonomous vehicles."

"We can build a system that protects us from our mistakes - our incentive is vehicle safety, which began with encouraging five-star ANCAP vehicles and is now about trying to take fallible humans out of the loop."

Buckis says proceeding with caution is a wise policy.

"Our focus is understanding what the safety benefits may be; if they actually exist; questioning 'Are we assuming they'll happen?'; and knowing what the side effects will be."

"Basically we're asking, 'Are we creating another problem by trying to solve another?'"

Buckis says a lot needs to happen to bring autonomous vehicles to Australia, including physical testing and trialling.

She also admits realising the safety benefits won't always sell with the public.

"We have to make sure these vehicles don't compromise other aspects of road safety," she says.

"We've always had difficulty in the past understanding the safety benefits of vehicle safety features."

"We've traditionally had to wait for real-world data to make decisions and often that data is reliant on Europe or the United States where they regularly get safety features before us."

Cautionary tales are called that for a reason, she says.

"We need to ensure what we're promoting to the community is going to be safe, because in the past safety technology touted as the next big thing has come along and then you get side effects of behavioural adaptation where the benefits aren't necessarily realised."

"Being government, being the slow 'Debbi Downer' and not being as free as the private sector, especially when using public money, we need to rely on strong evidence before acting or promoting."

"We have high expectations of human drivers, but as soon as they do wrong we let them know or get upset and then five minutes later we do the same thing."

"It will take time getting people to adapt to autonomy."

The TAC is definitely monitoring what's happening, and Buckis says the ideal would be not to need the organisation anymore.

"There are people at the TAC who look after people who've been involved in crashes. I'd like to not have to do this job."

Linfox senior analyst **Andrew Porter** says the trucking industry has an

Continued on page 19



Paul Retter



Henny Durvall



Samantha Buckis



Andrew Porter



AUTONOMOUS VEHICLES

Continued from page 18
equally measurable role to play when it comes to both the potential benefits and the deficits - and not just for trucking specifically.

"The quality of Australian roads is one real driver of autonomous vehicle uptake," Porter says.

"Linfox operates one of the largest automotive testbeds near Anglesea in Victoria called the Australian Automotive Research Centre.

"One of the reasons it gets such good business is because if you're testing any degree of autonomous vehicle, as Bosch and Tesla have found out, it has difficulty handling just the colour variation of Australian roads, let alone the poor lane markings.

"Ironically, the last few kilometres down to our test facility is actually corrugated rock," he laughs.

"We've worked with the likes of Tesla to give them a truly Australian experience to develop autonomous cars for us because North American conditions don't necessarily work here."

Porter is optimistic but realistic about what the change will mean for trucking.

"I broadly agree that the cost will be a big driver for people with autonomous vehicles.

"For us, a lot of the traditional direct, linehaul, point-to-point, long-distance transport tasks are likely to change. We're going to have drivers around for a very long time, but at the moment a lot of their task is very monotonous.

"Anything that can make their task easier is something we'll focus on."

On the future powertrain front, Porter says long-distance commercial driving tasks are going to be very difficult for an electric vehicle

but autonomy could play a part because "distraction is common".

"We have a 'Vision Zero' motto, which looks at similar metrics to the TAC, that we use to reduce risk.

"But are you going to be able to automate a fuel tanker to go and drop its load at a service station while service stations still exist? I don't know.

"These are the sorts of things people don't think about - it's not always going to be just a matter of whether or not your next car is going to be electric or fuel cell-powered."

Analysing risk in the trucking industry is an important innovator for safety in a mobile workplace with a high potential for accidents, Porter says.

"The average age of our drivers is about 53-54 years.

"Drivers are paid quite well and drivers doing those really long drives in vehicles like fuel tankers tend to be the most skilled drivers in our industry, but they've got an even higher average age [than regular truck drivers].

"So there's a trend where the most skilled tend to be the oldest and they might be the best paid but they've got the most amount of danger involved."

Trucking has to be open to evolution to combat this, Porter says.

"We've seen different views of how long the automation pathway will take.

"We constantly get vendors of level-two truck platooning coming to us with prototypes, and it hasn't taken long for semi-autonomous features to make it into cars.

"Because of the nature of the work in our industry, automation will take longer

than with cars.

"Forklifts and mining vehicles are already automated and make potentially dangerous jobs safer for people.

And that means they can do other, safer tasks."

Porter says the Victorian government's move toward a licensing system where autonomous vehicle operators are held responsible for an accident is crucial progress.

"As a substantial user of the road network, it's really important for us that our trucks can deal with human drivers.

"That's going to be the challenge ahead as it takes a long time for cars of varying automation to be purchased by consumers.

"You and your car are only going to be as smart as the car next to you."

Talking about cars, Car-sales editor-in-chief **Mike Sinclair** - who has "driven" several iterations of autonomy - is adamant that following the money will show the safety benefits of autonomy will need data-based evidence.

"This next-event horizon is all about partial autonomy and what that can do for safety," he says.

"The quickest measurers of safety and cost are insurance companies.

"They're already offering insurance discounts on vehicles with AEB. If that doesn't tell you a story straight away, then I'm not in the communications business."

But Sinclair warns autonomy could mean manufacturing design changes, for better and worse.

"The two major parts of a vehicle that will change are the crash structure and the powertrain," he says.

"Electric powertrains won't significantly reduce the mass of the vehicle but with the crash structure, if you

have vehicles that cannot crash into each other, all of a sudden the crash structure becomes redundant.

"All of a sudden a vehicle which used to weigh 2200kg now weighs 1200kg."

At worst, crash testing could be compromised and it could mean years of crumple zone re-engineering.

"That will have energy, economic and safety benefits.

He recalls insights learned from one of the biggest safety and autonomy names in the business.

"We were having a conversation with the Volvo safety team in Gothenburg (Sweden) who say, if you wanted a concept where you were going to put people in a metal tin and let them drive within a foot of each other at a 100kmh closing distance... no government in the world would let that happen."

But that hasn't stopped countries finding ways to learn and trial how autonomous vehicles will change the future of transport, he says.

"The Korean car culture is much closer to America than Japan. Their cars are bigger, their roads are bigger, they drive fast.

"The automatic cruise control on the latest Hyundai slows down for speed cameras. The same technology can already autonomously stop you speeding, so we may see speed cameras disappear.

"It's about how much of a lack of amenity people are going to accept."

As self-imposed manufacturer and government deadlines draw closer, it seems there is still much to learn before we hand over the wheel to artificial intelligence. ■



Mike Sinclair

EV funding charging ahead

Continued from page 4

working on EVs was also announced.

MITO's \$95,000 grant means having qualified EV technicians will help improve confidence in correct servicing, maintenance and repairs. There is now no NZQA-registered qualification or national standard for the work.

Charging infrastructure also gets a massive boost.

Foodstuffs North Island receives \$427,937 for fast-chargers at New World Havelock North, Kawerau, Levin, Matamata, Mt Maunganui, Morrinsville, Ohakune, Stratford, Taihape, Tokoroa, Waihi, Four Square National Park, Opononi, Pirongia and Pak 'n Save Kaitaia.

In the South Island it gets \$399,575 for fast-chargers at New World Gore, Hokitika, Kaikoura, Mosgiel, Motueka, Nelson, Temuka, Westport, Four Square Havelock, Karamea, Reefton, Spring Creek, Pak 'n Save Blenheim and Queenstown.

Twenty golf courses nationwide will be able to install medium speed charging stations, thanks to a \$249,975 grant to NZ Golf. The project, which involves Chargemaster NZ, will make the stations available to the public as well as members.

About 100 cloud-connected, me-

tered medium charging units will be placed at King Country motels and hotels to help with tourism. They will come under a \$215,880 grant to community owned electricity distribution firm The Lines Company.

A 50kW DC fast-charging station in Hamilton and five slow-charging stations in association with Countdown supermarkets in the Waikato will result from a \$160,000 grant to electricity distributor WEL Networks.

Stratford and South Taranaki councils are combining with ChargeNet to put three fast-chargers along SH3 and SH45. The stations in Stratford, Opunake and Waverley will create a charging network around Mt Taranaki under a \$96,000 grant to the South Taranaki District Council.

Fisher & Paykel Healthcare, based in East Tamaki, Auckland, gets \$72,500 to install 74 EV slow-chargers and two medium speed DC chargers to encourage staff to buy EVs. The chargers will also be available to visitors.

Wilson Parking NZ receives \$60,622 to install 34 slow-charging stations at its sites, capable of charging 46 EVs at a time. Most of the sites are in Auckland, with some in Hamilton, Wellington, Christchurch and Dunedin.

Counties Power is putting a 50kWh

DC fast charger in Waiuku, south-west of Auckland, using its \$30,000 grant for the purpose.

Cloudy Bay Vineyards in Blenheim is planning four slow EV charging stations available to the public on site with its \$10,000 grant. The vineyard says the EV technology will be seen by more than 30,000 visitors every year.

The low emission vehicles contestable fund is one of a range of initiatives in the Government's Electric Vehicles Programme, which has a target of doubling the numbers of EVs every year to reach 64,000 by the end of 2021.

The fund offers up to 50% funding towards projects. Applicants must match or exceed the amounts granted. For this round, recipients are contributing \$4.3m.

Visit www.eeca.govt.nz for more information about the fund or www.electricvehicles.govt.nz for general information. ■

EVs ready to lead the charge again

Continued from page 10

"We always strive for neutrality, especially around EV brands, and to that end we have tried hard to encompass as many different EVs on the trip as possible – opening our arms to any manufacturers that would like to participate on the trip."

Trust communications manager **Shawn Moodie** fell in love with driving EVs because they're so quiet.

"I've been in a lot of EVs and like everyone else I was first blown away by the lack of an engine noise."

"But in all honesty what really got me hooked was, as a music lover, being able to immerse myself fully in a song rather than having it compete with the rattle of an engine."

The Leading the Charge website has all the information on how you can play a role in promoting a carbon neutral transportation future.

Visit www.leadingthecharge.org.nz for more details. ■

Electric tourists hit the road

Continued from page 3

find work, and they have no plans as yet for any further travel.

People have been very supportive of their tour.

"Thanks to *EVtalk*, Jucy got in touch with us about their electric campervan," de Bokay says. "However, we were thinking of a loan to buy an electric car to travel around in and then sell later."

"We're very grateful to the EV community here and others because they've been so welcoming and helped out."

Says Trinquet: "It feels like home here."

Both admit they were quite nervous about making the trip to the other side of the world and driving an EV campervan, particularly because

nobody has done that before.

While de Bokay has access to a family Citroen C-Zero EV at home, Trinquet isn't so familiar with them, although a Paris car sharing scheme has EVs available.

"But we're now relaxed," de Bokay says.

They've seen new charging stations going in even since arriving here and are quickly learning where they can plug in.

"New Zealand is the perfect country for EVs," Trinquet says.

"In France, electricity comes mainly from nuclear energy. Here it's nearly all from renewable sources."

Contact the students on news.land@hotmail.com if you can help, for school visits and more information. ■

SAVE A WONDERFUL \$250 ON E.SCOOTERS.

E.scooters are here. And if you're a Mercury customer, you can score an exclusive \$250 discount on all E-TWOW e.scooters. So get ready to woohoo your way around the place this summer.

Visit mercury.co.nz/escooters to find out more.

#RideWonderful



Terms and conditions apply. See mercury.co.nz/escooters for details.

Energy made
Wonderful

Mercury 

Road trip set to spread the word

Momentum is the magic driving the uptake of electric vehicles in New Zealand.

The Better NZ Trust's annual #LeadingTheCharge road trip will kick off in Bluff on March 14.

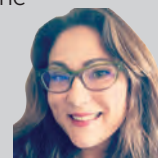
My husband Steve and I are two of the trust's founding members and it's with great pride that we've seen the annual road trip – one of the high-lights in the New Zealand EV calendar – grow and grow.

A close friend and EV champion from Northland (sometimes referred to as the cradle of EV civilisation) **Margaret Baker** will be driving our bright red Tesla Model X for the entire #LeadingTheCharge road trip.

We know that one of the main ways to get people excited about electric vehicles is by getting them into the driver's seat. With that in mind, rides and drives in the Tesla and many other electric vehicles will be open to the public in 26 stops across the country throughout the event.

Having recently been awarded charitable status, the Better NZ Trust will also be actively seeking support from businesses and the public to continue its epic efforts in sharing the joy of electric vehicle ownership.

Dee West, alongside her husband Steve, has been one of the most prominent faces in the EV enthusiast arena, starting the "Leading The Charge" movement while investing in the ChargeNet NZ private network of charging infrastructure. She is a leading sustainability communicator through her work with communications agency, SolPR, which she owns.



This is the fourth year the road trip has rolled silently through New Zealand, powered by the predominantly hydro-powered electrical grid of Aotearoa.

The first happened across the first three weeks of January 2015. That saw **Carl Barlev** (Blue Cars), **Nick Smith** (ChargeNet chief operating officer), **Steve West** (ChargeNet chief executive), **Dee West** (ChargeNet communications manager) and **James West** (youngest child of Steve and Dee) meeting people from one tip of New Zealand to the other, and taking them for a wild ride in the nation's first two fully electric Tesla Model S cars.

All of the founding participants are today proud owners of a wide range of full battery electric vehicles, spanning the entire range of available options, and they're continuing to eagerly share their cars to put more EV grins on faces across New Zealand.

Due to work and family commitments, the originals will not be attending all the events this year. They are all working hard at the coalface of EV uptake for a cleaner, greener, quieter and more energy independent transport solution for New Zealand.

But we are pleased to see the growth in our burgeoning community and are happy to be able to pass the torch on to a new generation of EVangelists.

In the first year of the road trip, there were fewer than 100 registered electric vehicles on New Zealand roads. This year, well over 7000 will be soaring around, saving the planet with their zero emissions.

On behalf of the team at ChargeNet, I wish everyone involved with the road trip all the best and encourage you all to come out and support it and show the rest of New Zealand why we are all so excited to be EV owners. ■

Riding the Storm

Continued from page 15

leg up a couple of hills while remaining in the saddle.

The real-world range is probably close to 30km or 40km, depending on the rider's weight, the hills, how much you crank the throttle and even a head wind.

Hydraulic shock absorbers provide a smooth, comfortable ride. However, the Storm Cruiser's long wheelbase (the mini version has a shorter wheelbase and lower handlebars) did see the deck bottom out a few times on some bad parts of the road, footpath and cycleway.

I did like being able to get both feet on the ground at stopping points.

You can fit accessories such as a cup holder, a lockable box, a luggage rack and even a second seat.

There's also a conversion kit to carry golf gear to get around the course and a car rack is available too.

A rear light with indicators is helpful but the handlebar indicator switch doesn't automatically click back to neutral so you must remember to do it manually.

Overall, it's a fun, zero-emissions way of getting about to the shops or work (you can use a backpack or carry stuff home on it) and is especially suitable for those with a slight injury.

Storm Rides NZ says it's been receiving considerable interest from people aged from 30 to their late 70s who have some disability that makes other forms of transport tricky.

Many of them dislike the idea of the conventional mobility scooter as these

are considered slow and make them look older than they are.

The Storm Electric Cruiser is priced around \$2395 but you'll be saving a heap on fuel and other costs. For golfers, the conversion makes the total cost about \$2794.

"We have been riding and testing these for over 18 months on the road and footpath and have had no issues," the firm says.

Storm Rides also market the Storm Cruiser to golf courses, large event venues, security patrols, beach towns, caretakers and city dwellers who don't want to operate a car.

With an exclusive licence for Australia, New Zealand and the Pacific Islands, the company is exporting the Cruisers to Rarotonga and surrounding islands after working with the government there.

Visit <https://stormrides.nz/> for more information. ■

HRV moves to solar for EV revolution

Continued from page 8

be used to introduce extra power to homes, as a cheaper power source during peak hour consumption, as a way to power homes during power outages, and even to release energy back to the network to support customer demand.

People could charge their car batteries overnight when energy is cheaper and use that energy in the morning or evening when it generally costs more, or as a power boost when needed.

V2G offers increased customer choice and provides consumers with greater control over how they power their lives.

A Nissan Leaf G2 with a 30kWh battery could power the average household for 10 hours.

The new chargers could also integrate with other technologies such as solar and batteries to redefine what we mean by a truly smart energy home or business.

In fact, V2G will influence not just how owners power their vehicles but how they rethink their whole energy usage.

With battery storage technology continuing to improve, the possibilities for smart energy use in the home are dramatically expanding, particularly where solar power is also being generated.

With the right battery, consumers will

be able to make three choices around their energy usage. They can use it there and then, they can store it and use it later (for example, to charge their vehicle) or they can sell some of it on to others.

Alongside an EV with reverse charging capability, a home solar system with battery storage, such as those now offered by HRV, will have the potential for true energy freedom, with transport, heating and appliances all fuelled by energy generated and stored on-site.

Visit www.hrv.co.nz to find out how to make your home ready for the EV revolution to come with solar and battery storage. ■

Car loans from 9.55% p.a.
With fast approvals.

Apply now at www.udc.co.nz

UDC
New Zealand's Finance Company

Lending criteria, terms and conditions apply.

Do you sell EVs?

Talk to Rachel Hadfield about advertising your business here with EVTalk

- in print and online



Phone: +64 21 778 745 or
Email: rachel@automediagroup.co.nz

EV DIRECTORY

The comprehensive guide to every service an EV owner or dealer could use

EV CHARGING

charge.net.nz

CHARGENET NZ
0800 2 CHARGE
(0800 224 274)
info@charge.net.nz
www.charge.net.nz
New Zealand's only nationwide network of Rapid DC Chargers for electric vehicles.



ChargeMASTER LTD
021 448 107
nigel@chargemaster.co.nz
www.chargemaster.co.nz
Our mission is intelligent charging - for residential, commercial/fleet, public & high capacity bus/port/mining charging.



YHI (NEW ZEALAND) LTD
A subsidiary of YHI International Limited

YHI (NEW ZEALAND) LTD
Freephone 0800 877 359
ev@yhi.co.nz
www.rolco.nz &
www.yhipower.co.nz
YHI offers nationwide product solutions for electric vehicle charging and power systems.

EV EQUIPMENT

OEM AUDIO
0508 6362 8346
sales@oemaudio.co.nz
www.oemaudio.co.nz
EV Charging cables that are made, tested & compliant for the NZ market.

EV MEMBERSHIP ORG

DRIVE ELECTRIC

DRIVE ELECTRIC
drive@driveelectric.org.nz
www.driveelectric.org.nz
Drive Electric is a not-for-profit membership organisation with one goal - making EV ownership in NZ mainstream.

FINANCE & INSURANCE



UDC FINANCE
0800 500 832
www.udc.co.nz
Quick and easy car loan applications. Fast approvals. Rates from 9.55% p.a. UDC lending criteria, terms and conditions apply.
[Find out more](#)

provident insurance

PROVIDENT INSURANCE
0800 676 864
info@providentinsurance.co.nz

Contact: Steve Owens
Chief Executive Officer
Helping dealers "Make Profits Grow". Specialist F&I training, support and products to retail motor vehicle traders.

VEHICLE INSPECTION



VINZ
Vehicle Inspection NZ
0800 GO VINZ
enquiries@vinz.co.nz
www.vinz.co.nz
NZ's independent vehicle inspection specialists - ask about our hybrid & electric vehicle safety check.

VEHICLE SERVICING

GILTRAP NISSAN
09 522 9928
service@giltrapnissan.co.nz
www.giltrapnissan.co.nz
Nissan NZ Authorised EV Service Centre conveniently located in Newmarket, Auckland. Open 6 days.

EVs continue to rise

Electric vehicle numbers reached 6603 in January, up nearly 400 on December.

That's pushing even closer to this year's goal of 8000, which is likely to be surpassed months ahead of time at this rate.

The Ministry of Transport's latest figures show the fleet is made up of 1327 new light pure electrics (up 63 on December), 3493 used light pure electrics (up 280), 1229 new light plug-in hybrids (up 32) and 477 used light plug-in hybrids (up 27).

Heavy EVs barely moved - just one more was added to last year's total of 76.

There were 407 EV registrations in January compared with November's peak of 477. Registrations dropped to 378 in December.

The Nissan Leaf continues to be the most popular electric vehicle, with the model leading the used battery electric vehicle chart with a huge 241 units.

The Nissan **eNV200** was second on 16, followed by the Renault **Zoe** on four.

The Mitsubishi **MiEV** was next on two, tied with the **BMW i3**. One **Smart FourTwo** also joined the fleet.

In used plug-in hybrids, the Toyota **Prius** topped the market for the first time on 11 units.

The Mitsubishi **Outlander** was second on 10, followed by the **BMW i3** on five. One Porsche **Spyder** and a **BMW 330e** were registered.

In the new EV market, the Volkswagen **eGolf**, quickly becoming popular with rental and other fleets, led on 23 units.



This edged out the Tesla **Model S** on 16 and the Hyundai **Ioniq** on 11.

The Tesla **model X** was next on seven, followed by the **BMW i3** on three, Renault **Zoe** on two and Renault **Kangoo** on one.

The Mitsubishi **Outlander** easily won the battle for plug-in hybrid supremacy, with 12 registered. The Mini **Countryman** is performing surprisingly well, with seven delivered.

Next was the Audi **A3 Etron** on five, followed by the **BMW i3** on three. Two

BMW **3-Series** and Audi **Q7** plug-ins arrived, followed by one each of the Mercedes-Benz **GLE**, Porsche **Panamera**, Volvo **XC60** and Volvo **XC90**. ■

NEW MAKES AND MODELS JAN 2018

Make and Model	Total
ELECTRIC	
VOLKSWAGEN GOLF	23
TESLA MODEL S	16
HYUNDAI IONIQ	11
TESLA MODEL X	7
BMW I	3
RENAULT ZOE	2
RENAULT KANGOO	1
TOTAL ELECTRIC	63

PLUG-IN HYBRID

TOTAL PLUG-IN PETROL HYBRID	30
MITSUBISHI OUTLANDER	12
MINI COUNTRYMAN	7
AUDI A3	5
BMW I	3
BMW 3 SERIES	2
AUDI Q7	2
MERCEDES-BENZ GLE	1
PORSCHE PANAMERA	1
VOLVO XC60	1
VOLVO XC90	1
BMW 2 SERIES	0
BMW 5 SERIES	0
BMW 7 SERIES	0
BMW I	0
BMW X5	0
HYUNDAI IONIQ	0
KIA NIRO	0
MERCEDES-BENZ C-CLASS	0
MERCEDES-BENZ S-CLASS	0
PORSCHE CAYENNE	0
TOYOTA PRIUS	0

USED IMPORTS JAN 2018

MAKE	MODEL	TOTAL
BEV		
NISSAN	LEAF	241
NISSAN	E-NV200	16
RENAULT	ZOE	4
MITSUBISHI	MIEV	2
BMW	I3	2
Smart	FourTwo	1

PLUG IN HYBRID

TOYOTA	PRIUS	11
MITSUBISHI	OUTLANDER	10
BMW	I3	5
PORSCHE	SPYDER	1

All the EV Industry HOT NEWS

every day as it happens on www.evtalk.co.nz

Subscribe online for FREE weekly 'Alerts' direct to your email





EV TALK DIARY

EVtalk New Zealand editor
Geoff Dobson looks at the month
gone by on www.evtalk.co.nz



January 3

First new-generation Leaf hits NZ market

A new generation Nissan Leaf 40kWh G 2018 model year all-electric car offered by EV Central in Taupo has attracted considerable interest.

Nearly 100 people have added it to their watch list on Trade Me Motors alone.

The phone's been running hot for EV Central EV manager **Richard Blakeney-Williams** who had 10 calls in one day, plus a call at 6am New Year's Day.

January 5

EV fleet confirmed at 6162

New Zealand's EV fleet stands at 6162, Ministry of Transport December figures show.

It confirms EVtalk's December 21 report that EV registrations had hit 6000, that information provided by the Energy Efficiency and Conservation Authority (EECA).

Most (3216) are used light electrics with 1265 new light pure electric and 1197 new light plug-in hybrids. There are 408 used light plug-in hybrids and 76 heavy EVs.

January 10

The 300,000th Leaf sold

Nissan has sold its 300,000th Leaf.

The all-electric Leaf first went on sale in 2010 and is the world's first mass-produced and the world's best-selling electric car.

Nissan launched a fully re-designed version of the Leaf in September 2017 with ProPilot technology, and e-Pedal, increased power and range, and improved refinement, comfort

and convenience.

January 12

Drive Electric supports NZTA's EV move

The New Zealand Transport Agency's decision to look at boosting its electric vehicle fleet and invest in charging infrastructure has been welcomed by Drive Electric.

The not-for-profit group, which promotes the benefits of EV technology in New Zealand, is pleased NZTA is seeking to bring more EVs on board.

"NZTA's proposal to add 41 EVs to its fleet in 2018 shows it is leading from the front in adopting technology that will eventually dominate the automotive sector in just a few years," Drive Electric chairman **Mark Gilbert** says.

January 15

EVs popular in Nelson-Tasman

Electric vehicles are taking off in the Nelson-Tasman region, according to Ministry of Transport figures.

There are now 150 EVs in Nelson-Tasman, which has increased from 50 at the beginning of 2017, Stuff reports.

The Car Company Nelson's **Damien Taylor** says demand is outstripping supply.

January 16

Mercury takes on Tesla battery trial

Tesla will provide Mercury with a grid-connected battery as part of a new trial.

The battery will be able to store and return energy directly to the national grid, making energy supply possible even during an outage,

the NZ Herald reports.

It is the same technology that Tesla is currently using in South Australia and Southern California.

January 17

Commercial EVs get EECA funding boost

Support for heavy and light commercial EVs have featured prominently in the latest round of grants from the Energy Efficiency and Conservation Authority (EECA).

Twenty organisations will receive funding from EECA's Low Emission Vehicles Contestable Fund for projects that support the uptake of EVs, on the condition that they match or exceed EECA's contribution.

Coda Group has received \$500,000 to build an electric freight shuttle that will transport dairy products from the Fonterra Te Rapa dairy factory to the Fonterra Crawford Street freight hub in Hamilton.

January 18

MITO to develop EV qualification framework

Official training standards for technicians working on electric vehicles are being developed by MITO.

"MITO is absolutely delighted to have received this funding. The fund encourages innovation and investment to accelerate the uptake of EV and low-emission vehicles in New Zealand," MITO chief executive Janet Lane says.

"Critical to this is developing the human infrastructure required for the safe inspection, servicing and repair of EV vehicles, balancing the required physical infrastructure. We are sincerely grateful for this co-investment."

January 19

Jucy electric fleet for tourists

Thousands of international

tourists visiting New Zealand could be driving electric campervans within two years after a new electric vehicle (EV) trial.

It will mark the first time an electric campervan has been rented to tourists in the market.

Two visiting French students, **Heloise de Bokay** and **Solene Trinquet**, who came to Jucy's attention from an interview in *EVtalk*, are set to travel thousands of kilometres in an electric prototype Jucy campervan.

January 22

Warning to check EV battery "state of health"

Dealers are being told a battery "state of health" report is the best way of measuring battery condition when selling an electric vehicle (EV).

The EV's battery bar display is only an indicator and shouldn't be promoted in advertising – a print-out of the battery's state of health should be used instead, the Imported Motor Vehicle Industry Association (VIA) says.

The state of health is by far the most accurate way of measuring battery condition the VIA says in urging dealers to take care when advertising EVs.

January 22

Isuzu releasing small EV truck this year

A small electric truck will be launched by Isuzu in the Japanese market by the end of this year.

The truck will be developed by replacing the power train of Isuzu's Elf small truck with a driving motor and battery, Japan Today reports.

"We aim at a drive range longer than 100km," Isuzu says. The company expects the truck can be easily used for delivery operation in urban areas.

Continued on page 26

Continued from page 25

January 24

EVs for Kerikeri Retirement Village

A fleet of electric vehicles (EVs) is due to start arriving in Kerikeri in February.

Four EVs will be obtained by the Kerikeri Retirement Village by May in a car share operation for its residents and staff.

The Kerikeri Village Trust is getting a Kia Soul and three Nissan Leaf EVs.

January 25

No turning back for EV owners

Most EV owners will buy electric again.

So says Flip the Fleet, a citizen science coalition of electric and plug-in hybrid vehicle

owners that upload data from their vehicles to a communal database monthly.

This month's report says 91% of 276 electric vehicle and plug-in hybrid owners would 'definitely' or 'probably' buy electric if they ever bought another car. A further 7% were unsure, and just 2% were unlikely to buy another EV – mainly because they want a mix of electric and conventional vehicles for maximising flexibility, towing and other duties.

January 26

Used Nissan Leafs in short supply, prices up

Anyone waiting for imported second-hand Nissan Leaf pricing to drop will be disappointed.

A supply shortage in Japan

and increased sale prices there have led to some New Zealand car dealerships adding about \$2000 to \$3000 to their Leaf prices as a result.

"We've noticed prices have gone up hundreds of thousands of yen," says **Nelson Cottle** of Auto Court in Dunedin.

January 28

Tesla owners get top spot

Tesla owners were treated to a prime location in Waitemata Harbour last night as Auckland celebrates its anniversary weekend, concluding with Monday's public holiday.

Model S and Model X owners with family and friends enjoyed an enviable view of the Vector Lights show by boarding a barge ferry to watch from the centre of the harbour.

The Vector Lights spectacle was also powered by a 250kW/500kWh Tesla Powerpack system under the Auckland Council and Vector Limited energy joint 10-year "smart energy" partnership. ■

NZ EV INDUSTRY NEWS

EVtalk

Register for
FREE
news updates

Receive
twice-weekly
news alerts to
your email

www.evtalk.co.nz/subscribe



EV TALK DIARY

EVtalk Australia editor

Geoff Dobson looks at the month gone by on www.evtalk.com.au



January 4

Cars that learn from drivers

Drivers' brain signals will soon be interpreted by vehicles, redefining how people interact with their cars.

That's according to Nissan which has just unveiled research to enable vehicles to do just that.

The company's Brain-to-Vehicle technology promises to speed up driver reaction times.

January 5

Victoria to get Tesla battery

Victoria is set to follow South Australia's lead in providing a Tesla battery system linked to

a wind farm.

France's Neoen says it has signed a support agreement with the Victorian government for a 20mW battery at the Bulgana Green Power Hub near Stawell in western Victoria, the Sydney Morning Herald reports.

January 16

Ford plugs into electric future

Ford Motor Company has thrown US\$11 billion (A\$13.9 billion) at electric vehicles and an inventory of hybrids it claims will be on-road by 2022.

The company says it will have 40 hybrids and EVs in showrooms in the next five years, with at least 16 set to be fully electric, executive

chairman Bill Ford told the North American International Auto Show.

January 22

Electric Commodore in seven years?

Forty electrified models planned by France's PSA Group by 2025 could include a Holden Commodore.

The parent company of Peugeot, Citroen, Opel, Vauxhall and DS has released few details about the hybrid, plug-in hybrid or all-electric powertrains that could be included by then.

January 23

Adelaide EV production plan

Whyalla steelworks owner **Sanjeev Gupta** intends building electric cars in Adelaide using Holden equipment.

The British billionaire's plan to revive South Australia vehicle manufacturing

includes the possibility of buying Holden assets from its closed Elizabeth facility, The Advertiser reports.

January 25

Volvo electric trucks coming

Volvo says it will begin selling electric trucks next year.

The first medium-duty trucks will be sold in Europe and Volvo says some units will be put into operation this year with a few selected customers. ■

EVtalk

Keep up with
AU Electric Vehicle
industry news

evtalk.com.au/subscribe



DELTA AC MINI EV CHARGER

Modern and stylish design
Up to 32A @ 230V charging
Max. output power: 7.36 kW
IEC 62196-2 Type 1 / Type 2 tethered plug and Type 2 socket
User-friendly interface and RFID authentication
Easy installation and wiring
Built-in network connectivity (OCPP)
IP55 protection and IK08 vandal-proof casing

COMMERCIAL



FLEET



PARKING



RESIDENTIAL



SERVICE STATION



EV CHARGING LOCATIONS

bought to you by **AUTOHUB™** your leading logistics team for Japanese and UK used EVs
FORWARD TOGETHER

Fast Charger Locations – North Island

Kawakawa - Tikipunga -	4 State Highway 1 Paramount Plaza, 1 Wanaka St, Whangarei	Ruakura -	Waikato Innovation Park, 9 Melody Ln, Hamilton
Whangarei -	Northpower Substation, 11 Alexander St	Raglan -	43 Bow St
Raumanga -	McDonalds, 130 Tauroa St, Whangarei	Mt Maunganui -	Bayfair, 19 Givren Road, Mt Maunganui Rd
Dargaville -	Totara St Parking, 113 Totara St	Cambridge -	73 Queen Street
Kaiwaka -	1 Kaiwaka-Mangawhai Rd	Te Awamutu -	10 Scout Lane
Warkworth -	New World, 6 Percy St	Whakatane -	i-SITE, 30 Quay St
Warkworth -	BP Warkworth, 67 Auckland Rd (SH1)	Opotiki -	i-Site, 70 Bridge St
Silverdale -	Kings Plant Barn, 17 Hibiscus Coast Highway	Te Kaha -	Te Kaha Beach Resort, 3 Hotel Rd, SH35
Albany -	The Warehouse, 186 Don McKinnon Drive, Albany	Rotorua -	1134 Haupapa St
Rosedale -	McDonalds, 14-16 Constellation Dr, Auckland	Matawai -	6522 Matawai Rd
Kumeu -	Kumeu New World, 120 State Highway	Tolaga Bay -	43 Cook St (25kWh charger)
Henderson -	Pak'n'Save, 224 Lincoln Rd, Auckland	Te Kuiti -	New World, 39 Rora St
Auckland -	21 Hobson St	Taupo -	Tesla Supercharger, 1 Kaimanawa St
Auckland -	Z Station, 150 Beach Rd	Gisborne -	21 Gladstone Rd, Gisborne, 4010
Newmarket -	1 Gillies Ave, Auckland	Rangitaiki -	Rangitaiki Lodge Café, 3281 SH5
Greenlane -	McDonald's, 320/356 Great South Rd, Auckland	Turangi -	1 Pihanga Rd
Pakuranga -	BP Station, 322 Pakuranga Rd, Auckland	New Plymouth -	66 Courtenay St
Botany Downs -	Z Station, 550 Te Irirangi Dr, Auckland	Wairoa -	75 Queen St
Auckland Airport -	Airport Shopping Ctr, 400 George Bolt Memorial Dr	Te Haroto -	Mc Vicar Rd, Napier-Taupo Highway, 4237 SH5
Auckland Airport -	Z Skyway, George Bolt Memorial Dr	Waiouru -	State Highway One & Hassett Dr
Takanini Village -	30 Walters Rd, Auckland	Napier -	206 Dickens St
Coromandel -	44 Woolams Rd	Hastings -	100 Queen St W
Whitianga -	4 Lee St	Mangaweka -	2 Koranui St
Tairua -	Tokoroa Rd Carpark, 6 Tokoroa Rd	Waipukurau -	34 Russell St
Pukekohe -	King Street Carpark (Seddon Lane), 56-60 King St	Dannevirke -	24B Gordon St
Pukekohe -	Counties Power, 14 Glasgow Rd (Business hrs only)	Woodville -	i-SITE, 43 Vogel St
Thames -	505 Mackay Street	Palmerston North -	i-SITE, 126 The Square
Whangamata -	100 Hetherington Road	Palmerston North -	Tesla Supercharger, 365 Ferguson St
Te Kauwhata -	16 Wayside Rd	Otaki -	155-163 Main Hwy
Te Rapa -	WEL Networks, 114 Maui St	Masterton -	3 Dixon St
Hamilton -	Tesla Supercharger, The Base, Te Rapa Rd & Wairere Dr	Porirua -	2 Serlby Pl
Hamilton -	Caro St Carpark, 7 Caro St	Featherston -	SuperValue, 42 Fitzherbert St, Rimutaka Hill
Hamilton -	Pak'n'Save, Clarence St,	Upper Hutt -	24 Queen St, Upper Hutt
		Lower Hutt -	Dowse Art Museum, 1 Stevens Grove
		Petone -	Z Station, 60 Hutt Rd,
		Te Aro -	Lower Hutt Z Station, 174 Vivian St, Wellington



Fast Charger Locations – South Island

Takaka -	16 Willow St
Nelson -	Millers Acre Carpark, 37-39 Halifax St E
Richmond -	Tasman District Library, 11 Mcglashen Ave
Greymouth -	13 Tarapuhi Street
Kaikoura -	51 West End
Culverden -	27A Mountain View Rd
Northwood -	New World, 2 Mounter Ave, Christchurch
Addington -	Z Station, 40 Moorhouse Ave, Christchurch
Little River -	4235A Christchurch Akaroa Rd
Rakaia -	Rolleston St
Ashburton -	109 West St
Tekapo -	Lake Tekapo Tavern, State Highway 8
Fairlie -	Opposite 53 Main St
Geraldine -	Cox St Carpark, 14 Geraldine-Fairlie Highway
Twizel -	Twizel Events Centre, 61 McKenzie Dr
Timaru -	26A North St, Timaru
Omarama -	4 Sutherland Rd
Wanaka -	42 Ardmore St
Kurow -	Wynyard St
Waimate -	125 Queen Street
Oamaru -	Eden St Carpark, 3 Eden St
Ranfurly -	31 Charlemont St E
Alexandra -	9 Thompson St, Bridge Hill
Hampden -	33 Lincoln St
Dunedin -	Filleul St Carpark, 193 Moray Pl
Winton -	New World, 293 Great North Rd
Balclutha -	23 Charlotte St
Invercargill -	116 Esk St

