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EV talk

FEBRUARY 2020

.CO.NZ

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EV DELIVERS CATCH OF THE DAY

An all-electric chilled van is on the road in Auckland delivering fresh fish in what's hailed as a New Zealand first.

The Sanford chiller van can carry up to a tonne of seafood between the Ports of Auckland and destinations around the city.

It's a first here because both the engine and chiller are fully electric and independently powered.

The LDV EV80 van in Kiwi seafood company Sanford and Sons livery runs on a lithium phosphate battery and has about 150km range, able to be fast charged in two hours.

The eutectic technology involved allows for cold plates in the van to be filled with phase changing material (PCM) which is solidified and stores thermal energy, keep the van interior temperature at between zero and four degrees Celsius for the time deliveries are being made.

Sanford chief executive **Volker Kuntzsch** says it's always exciting to be on the cutting edge of sustainable technology.

"Being able to deliver fresh, chilled seafood daily to our customers is an absolute necessity and we're delighted we've been able to find a solution which is zero emissions, which fits with our focus as a company taking a sustainable approach to everything we do."

Sanford's supply chain general manager **Louise Wood** says the company is grateful to the Government's low emission vehicles contestable fund, administered by the Energy Efficiency and Conservation Authority (EECA), for its support.

"The EECA funding is great because it encourages innovation and investment to promote, enable and accelerate the uptake of electric vehicles," she says.

"That's made a big difference to us and has given us the encouragement to try something new. "We're very pleased to have partnered with LDV who supplied the EV80 as well as PlugnChill for the eutectic refrigeration and Auckland Auto Air who have customised the vehicle to include the fitting of the refrigeration and the insulation."

Sanford's chiller van on the Auckland waterfront

Fresh fish can be kept in perfect condition

Sanford received $40,000 towards the project, the successful fund applicants announced in January 2019.

The EV van is owned by Sanford which has installed a charger at the Auckland Fish Market where Sanford and Sons is the hugely popular fishmonger, the charger publicly available at limited hours – also supported by the EECA funding.

Sanford has several fishing vessels which land fresh fish into Auckland most days, quickly delivered to a variety of customers around the Auckland area with the EV van allowing this using the lowest possible carbon footprint.

Temperature in the van can be monitored remotely to ensure perfect conditions.

The chilled EV van is in keeping with Sanford's sustainability focus.

The company has been listed on the New Zealand stock market since 1924 and has sites in 11 locations around the country.

Sanford has 1600 staff and sharefishers throughout New Zealand, also having a scientific team finding new ways to make the most of seafood's life-enhancing properties from anti-inflammatory supplements to skin-nurturing collagen.

$12M BOOST FOR EV PROJECTS

Low emissions transport gets almost $12 million following the latest government low emission vehicles contestable funding round.

Twenty-one successful applicants from 71 applications get a share of the $3.8m government co-funding announced by energy and resources minister **Dr Megan Woods**.

They will contribute more than $8m of their own money, bringing the combined investment to almost $12m.

The projects range from increasing the number and availability of public EV charging stations to trialling vehicle-to-grid battery technology.

The fund has committed $23.8m in government funding to 139 projects - matched by $50m in applicant funding. Up to $7m in grant funding is available in 2019/2020.

In total, the government has now committed co-funding for more than 1000 EV chargers nationwide, of which over 600 are operational.

Projects to receive co-funding from round seven include:

- Foodstuffs to partner with ChargeNet to install public fast chargers at urban and provincial supermarkets;
- The Warehouse Group to install fast chargers at regional Warehouse stores for public use;
- Cityhop to purchase 50 EVs for nationwide car sharing;
- Mahu City Express to add an electric coach to its luxury coach and shuttle service between the Mahurangi region and Auckland;
- Eastland Port to purchase an electric truck for watering and dust suppression at Eastland Port.
- The Wellington City Council to install chargers at Waitohi, in Johnsonville; and
- Northpower to trial vehicle-to-grid technology at a residential address.

Woods has also announced the fund's round eight will open for applications on February 19 and close at noon on March 19, successful applicants announced in July.

The investment focus will for the first time include support for publicly available secure e-bike storage facilities.

The fund is one of several initiatives in the government's Electric Vehicles Programme and is administered by the Energy Efficiency and Conservation Authority (EECA).

The successful 21 applicants

Charging infrastructure

1. ChargeSmart $18,000 for four public 22kW AC chargers with a contactless payment solution at Pukeiti Garden in Taranaki.
2. ChargeSmart $175,000 to work with accommodation providers outside the main centres on overnight charging to travellers with 25 dual 22KW AC chargers at 16 accommodation sites.
3. Todd Property Ormiston Town Centre $120,000 to install public fast chargers, public chargers and associated civil works.
4. Ebbett Waikato $148,602 for a 175kW DC ultra-fast public EV charger at Te Rapa Gateway, Hamilton.
5. Foodstuffs (NZ) $113,400 to partner with ChargeNet to install one South Island public 50kW fast charger at each of two supermarket locations in Christchurch (Durham Street and Wainoni) and one in Timaru.
6. Foodstuffs (NZ) $487,000 and ChargeNet to install 13 public 50kW fast chargers at urban and provincial North Island supermarkets.
7. ChargeNet NZ $257,000 for four 300kW chargers for Taupo CBD.
8. ChargeNet NZ $77,000 for a public 50kW DC fast charger in, Mokau and Palmerston.
9. Drive EV $37,000 for one 50kW DC charger and one 22kW charger at its Taupo premises
10. Wellington City Council $50,000 for four public 25kW DC chargers at Waitohi.
11. The Warehouse Group $265,588 for one 50kW rapid charge DC EV charging station in eight regional stores for free public use.
12. Mitchell Corp NZ $43,950 to provide bookable EV charging facilities at 15 NZ accommodation providers.
13. Refining NZ $49,385 for a 50kW DC fast charger, and two 22kW chargers for visitor parking.

Thirteen applications for charging infrastructure were successful in round seven

Car rental/car share

14. Anglesea Car Rentals $351,564 to transition its "Loop" car share fleet of 20 combustion engine vehicles to battery electric vehicles (BEVs) and install 7.2kW chargers.
15. Zilch (formerly Yoogo Share) $300,000 to support deployment of a zero-emission car sharing service and related EV charging infrastructure in Auckland's CBD.
16. Cityhop $312,500 for 50 more EVs to take its electric car sharing service nationwide.
17. GO Rentals $180,000 for six rental BEVs.

Heavy electric vehicles

18. Eastland Port $298,500 for an electric truck at Eastland Port, and a 60kW charging station.
19. Mahu City Express $352,500 for an electric coach and 120kW heavy EV charger.

Electric vans

20. St John gets $127,179 towards two electric vans.

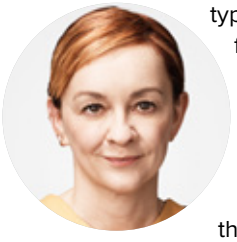
Technology

21. Northpower $13,200 for a Nissan Leaf to run a trial of vehicle-to-grid technology.

‘KISS OIL GOODBYE’

“It’s time to kiss oil goodbye” and join the electric revolution.

That’s **Mercury’s** new brand campaign theme launched, appropriately, on Valentine’s Day, February 14.



Julia Jack

It suggests starting a healthier relationship with electric transport, the campaign aiming to support a more sustainable future by encouraging Kiwis to break up with petrol and diesel vehicles in favour of the growing choice of EVs and other electric transport options.

Moving away from petrol and diesel cars is one of the most impactful changes we can all make to reduce our individual and collective impact on the environment, Mercury’s chief marketing officer **Julia Jack** says.

“We are calling it; it’s time to change our relationship status with fossil fuels.

“We have had an unhealthy dependence anchored in the past, whereas EVs are a relationship with a future.

“The electricity we generate and use in New Zealand is over 80% renewable and that’s growing. It’s a massive natural advantage we have over many parts of the world. We don’t need to be importing and burning fossil fuels for transport when we have better, healthier and cheaper options.”

The campaign is told through typical Kiwis who all have fond memories of their old vehicles but kiss them goodbye and then find freedom and happiness with new electric options that are right for them.

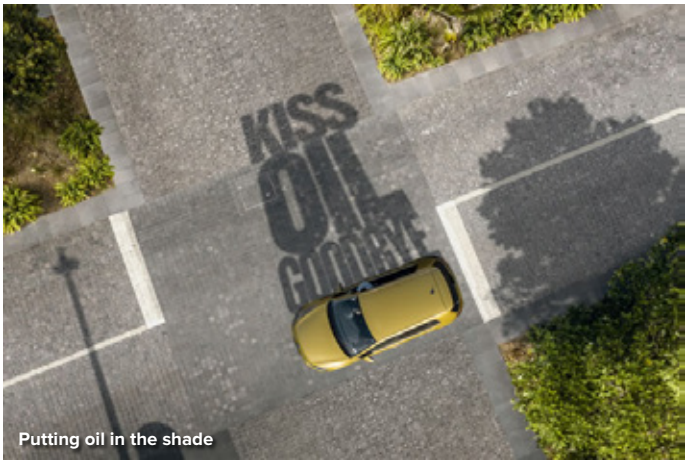
This represents an evolution of Mercury’s e-transport messages begun in 2014 and amplified with its ‘Energy Made Wonderful’ brand relaunch in 2016.

“We’ve strongly promoted e-bikes as a demonstration of electric energy made wonderful, and then we’ve busted some EV myths with stories told via Evie, our converted 1957 Ford Fairlane,” Jack says.

“This campaign isn’t just about talking the talk. We’re putting offers in place, incentives and ways to engage with our customers, and are refreshing our online presence with information that supports the movement to cleaner transport options,” she says.

“Among other initiatives, we will be extending our Mercury Drive EV-by-subscription service and partnering with a global operator renowned for innovative micro-mobility solutions, to help more people test whether the change is right for them.

Driving an EV past the petrol pump



Putting oil in the shade

“E-mobility is becoming ubiquitous. It’s now also about electric ferries, tugboats, trains, trucks, scooters and motorbikes, with air taxis hovering on the horizon. So many forward-thinking Kiwi organisations are innovating in the e-mobility space and there’s more choice to come.

“We know there’ll be people who can’t easily say goodbye to their internal combustion engine vehicles or don’t want to, and that’s okay. It isn’t about pointing any fingers; it is about opening the door a little wider to those who are ready to consider a change in habits, and to get a few more to that point of consideration.

“Through the campaign we want to show that while change might seem difficult, once you’ve taken the first step it can be wonderful and there’s a better relationship out there for all of us.”

Mercury’s creative agency is FCB, with whom Mercury collaborated with for its previous “Energy Made Wonderful” e-bike, and its Evie (electric vehicle) campaigns.

The television video commercial was directed by **Nathan Price** and edited by 2020 Academy Award nominee **Tom Eagles** (nominated for his work on *Jojo Rabbit*).

Mercury’s new website supports the electric revolution and the new TV ad first airs on February 16

Visit **www.mercury.co.nz** for more information.

See page 26 for more on the Mercury Drive EV subscription service.

The bumper sticker

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EVS AND BEYOND SET TO BREAK DOWN OUR ELECTRIC FUTURE

EVtalk will hold its first conference next month, focussing on the role electric vehicles and alternative energy solutions have in New Zealand's future.

The exclusive event is being help on Waiheke Island on March 16 and 17, in association with Drive Electric, Intelligent Transport Systems NZ, and Electric Island Waiheke Trust.

A broad array of speakers has been confirmed, from the political, scientific and commercial sectors – all important in playing their part in developing the use of future transport technologies.

Both the government and opposition will be given the chance to pitch their plans on how New Zealand can move away from fossil fuel-based transport.

In a unique format, many speakers will take part in question and answer sessions moderated by Auto Media Group editorial director Richard Edwards.

Other speakers will cover topics as broad as future new and used vehicle availability, infrastructure, electric ferries, trucks and bikes, a shift to multi-nodel mobility as a service, automated transport, hydrogen and energy resilience.

In a unique format, many speakers will take part in question and answer sessions moderated by Auto Media Group editorial director **Richard Edwards**.

"The idea of these sessions will be to challenge and probe the speakers on the real story behind their area of expertise, and to balance the often differing positions on what the future will bring.

Auto Media Group publisher, and one of the founders of Waiheke's Electric Island group, **Vern Whitehead**, is excited to bring the event to the Hauraki Gulf.

"Waiheke has been at the forefront of the EV movement in New Zealand, and is the ideal place to test, expand and use electric transport options," he explains. "It makes the ideal place to discuss and develop the future of electric transport for all of New Zealand."

Sponsors for the event include Platinum Sponsor YHI Energy, Gold Sponsors Autohub and Fuso and Silver Sponsors ChargeNet, GVI, Laser Electrical and SG Equipment (Polaris).

Registration includes access to the two-day conference, along with food and beverages (excluding dinner) over the two-days.

Ticket cost is $450 + GST and can be purchased **here**

If you have any further questions, don't hesitate to contact Deborah Baxter, event co-ordinator on **027 530 5016** or **deborah@automediagroup.co.nz**

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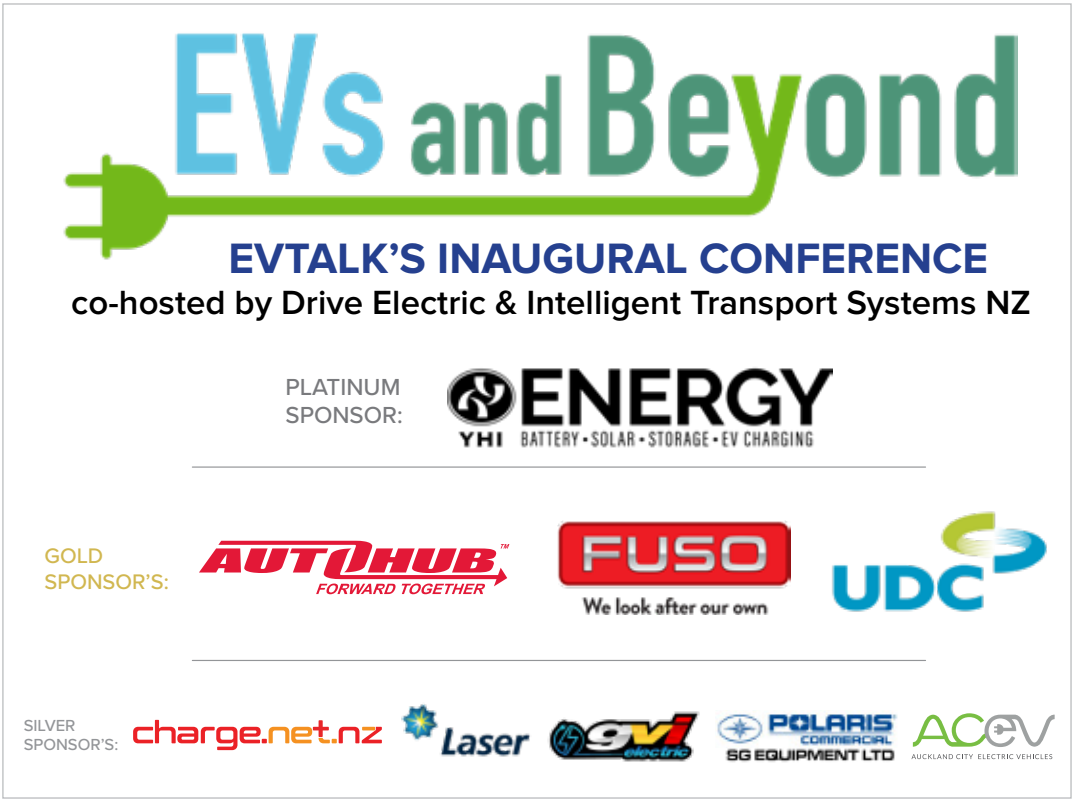

ELECTRIC VEHICLES AND BEYOND – The Conference

A two-day conference on the role of EVs and the development of alternative energy solutions for New Zealand.

Brought to you by NZ's Number One news source for electric, intelligent and automated transportation - **EVTalk magazine and news website** - in association with Drive Electric, Intelligent Transport Systems NZ, and Electric Island Waiheke Trust.

Waiheke Island Resort
March 16 and 17, 2020

Some exciting topics we will be covering over the two days:

- NZ Vs The World - What the world is doing and what NZ is doing - Is it enough?
- Election year special: The Government and Opposition policies and view on EVs and Beyond
- Progress with EV uptake in NZ-New and Used import vehicles
- Charging for Fleets and EVs in general – Removing the obstacles to uptake
- EVs – More than just cars – progress with other forms of electric mobility – Ferries, Ebikes, Scooters, Heavy Transport
- Enabling alternative forms of mobility – Multi-modal MaaS – Car and Ride Sharing
- Automated transport – reality or pipedream
- Hydrogen – sideshow or main event? Panel discussion
- Developments in EV charging and Batteries in EVs and Homes – exploding the myths
- A look into what the future will be – for Waiheke and communities throughout New Zealand
- Tomorrow's Energy today – towards resilience
- Announcement of Auckland Council's financial initiatives

LIMITED SPACES

EVs and Beyond

EVTALK'S INAUGURAL CONFERENCE

co-hosted by Drive Electric & Intelligent Transport Systems NZ

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The first ever *EVtalk* conference – EVs and Beyond

MARCH 16 & 17 2020

@ The Waiheke Island Resort

The conference will feature international and national speakers on a wide range of EV related topics.
We will also be looking beyond EVs and discussing progress towards electrification of individual homes and whole communities.

Tickets on sale now!

$450 + gst – includes entry to two day conference – morning tea, lunch and afternoon tea on both days

Contact Deborah on **deborah@automediagroup.co.nz** or visit **evtalk.co.nz/tickets**

Suggested Accommodation - The Waiheke Island Resort
If you are looking for accommodation, we recommend the conference venue.
All rooms are to be booked with them directly please find details below:
One Bedroom Studio Apartments - $285.00 (inc gst) per night
Two Bedroom Villas - $395 (inc gst) per night
With other options available for groups.
To make a booking with the resort either call or email the following contacts.
The booking number for this group is - 68170
Reception - 8am - 4pm daily - 09 3720011
reservations@thewaihekegroup.co.nz

LET THE SUN CHARGE YOUR EV

In an ideal world, solar cells would be high-density and efficient enough to simply cover your vehicle and provide the generated DC power direct to your vehicle's battery pack.

The reality is far from that but thankfully, very achievable. We often get questions such as: How many solar panels will it take to charge my car? How do I know my charging station is supplied by renewable energy?

The energy conscious EV driver expects their power to be clean and renewable, as is their car. The good news for New Zealanders is that almost all of our power is generated from renewable sources, so you can rest assured that all that juice is nice and clean.

Solar is a fantastic scalable, future proofed solution not just for guaranteed renewable charging, but for off-setting the amount of power that EVs require. Not only are more and more home owners and corporate sites investing in solar to supplement the additional load required for charging EVs, but we are seeing an uptake in solar as a structure; solar carports and solar undercover parking. These investments not only provide significant savings compared to upgrading transformers and cabling, but also sheltered/premium parking, a perk encouraging the uptake of EVs.

In the grid-tied space, the very exciting technology that is V2X (Vehicle to Home/Grid) is set to be a game-changer. YHI Energy is looking forward to welcoming the Delta V2X unit to our portfolio in Q3, 2020.

This fully enclosed, inverter-included unit will come in 6kW DC (residential) and 22kW DC (commercial), and have both mains and PV input and home storage connectivity.

V2X is not new technology but it will be new in New Zealand. Imagine being able to utilise your EV's battery to power your home, not being phased during an outage and then charging up again overnight and waking up with a full charge to get you to work and do it all again.

by **Jasmine Roxborough**, YHI Energy sales operations & project manager, responsible for the marketing team, key project accounts, EV charging product line & associated projects.

For the bold and remote we have a true off-grid solution with the Delta E5 5kW inverter & 6kWh battery paired with the ever-popular and diverse Delta AC Mini Plus.

This charging solution lends itself perfectly to a single carport installation which, in its current footprint, is capable of holding 5.6kW of PV panels, or multiple bundles connected to a large roof-mount PV installation.

Talk to YHI Energy.

WORKING SAFELY WITH ELECTRIC VEHICLES MICRO-CREDENTIAL (LEVEL 4)

This introductory programme will provide you with the practical skills and knowledge to work safely and effectively on or around electric vehicles.

Available to all those employed in the automotive industry, not just qualified technicians, this 2-month programme includes a mix of practical training and self-paced eLearning.

ENROLMENTS NOW OPEN

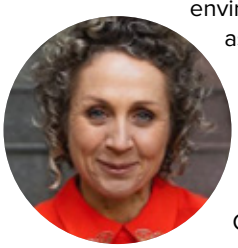
Visit mito.nz/evmicro

Russell Bowden, Katheren Leitner and Hayden Johnston

ASTHMA NZ BREATHES EASY WITH EV FLEET

Eight Nissan Leafs from GVI Electric are helping clear the air for Asthma New Zealand.

The EVs replace petrol cars in Asthma New Zealand's fleet, and chief executive **Katheren Leitner** says the project is not only about raising awareness of asthma and saving money on fuel and maintenance.



Katheren Leitner

"It makes sense for us, obviously given the fact that the environment is so critical, the quality of air we breathe is so critical," she says.

"The last thing I want is a journalist to call me up and ask me why I am driving around in a fossil fuel car!"

There are six white EVs in Auckland, one in Wellington and one at Rotorua's Asthma NZ branch.

Along with GVI, Asthma New Zealand's collaborated with ABB and Singer with the charging technology.

"All of a sudden, we've got other environments that are aware of asthma," Leitner says. "We are really aware we are the early adopters, and it's by the early adopters that allow the change to go on."

Leitner and the foundation were introduced to GVI by **Liz Yeaman**, a consultant on EVs and renewable transport energy who was previously with the Energy Efficiency and Conservation Authority (EECA) for more than seven years.

Hayden Johnston

EECA provided part funding for Asthma NZ's EV transition late last year.

GVI managing director **Hayden Johnston** worked with Leitner to help the charity select the best-suited EVs, and she recalls her own initial range anxiety.

"I stood there with Hayden freaking out, saying we need to go with the 30-kilowatt hour Leaf. I thought, we need to find the money to go into a 30kWh vehicle, because 24kWh is just not going to be sufficient.

"And Hayden's just there going, 'let's just have a look at your average kilometre rating again, let's just go through that' then he just calmly stepped me through it."

Having the right partners was

Continued on page 13

Continued from page 12

critical for Leitner and Asthma NZ.

"We could have easily gone with the biggest kilometre range."

It is important for Asthma NZ to be responsible with what it does with its funding, down to the selection of the vehicle make and model chosen and the message it is sending.

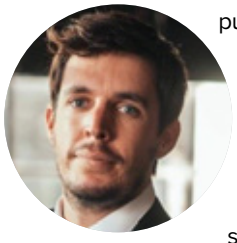
That's why it is important to go with second-hand EVs – and not only due to the cost, but sustainability as well, Leitner believes.

"I think if we had waited for the price of new vehicles to drop, we would have waited many years and dumped thousands of CO2 into the environment."

GVI gave Asthma NZ's nurses a "vehicle induction" to get drivers accustomed to an EV.

"GVI have been awesome in that perspective – who would have thought you would have to do a vehicle induction?"

"We've had our nurses come [into GVI] and spend the time they need to get familiar with the EV. GVI suggested we do that," Leitner says.



Russell Bowden

This has been instrumental for the nurses, who have had to adopt and adapt to the technology.

"Technology is not something that comes naturally to them. So, we still have petrol fuelled cars on the yard, but the nurses are now really comfortable with the EVs," Leitner says.

Leitner herself had only begun to drive an electric car recently and was surprised by her experience – particularly its comfort, smoothness and performance.

"It's required me to think differently. It's required me to think how I charge and when I charge. I was down to 38%, 30km from home, and I was freaking out. I can't put a nozzle into the tank!

"Then I got home and plugged it in. Now, I drive past petrol stations and wave at them," Leitner laughs.

GVI Electric vehicle sales consultant **Russell Bowden** says when people come into GVI looking to buy an electric car as the second household vehicle, use of their petrol car declines.

"People say 'we are buying an electric car. But when we go to Hamilton, we will take the petrol car'. They think that now, then they start taking little steps. There is a charger there, and it starts to become the electric car they use instead," Bowden says.

Leitner says public response to the fleet switch is positive. Many ask questions, and those with EVs are eager to chat and compare models and range.

"For us, our nurses go to people's homes up and down the country. They are the ambassadors. A lot of them have never seen an EV, and they are puzzled. The nurses talk about them in a language they understand, and it's a really great exchange."

Asthma NZ is in the early stages of converting its diesel mobile unit to electric, also for sustainability reasons.

"We're looking at partners," Leitner confirms. "We know that Waste Management is doing something similar with their vehicles, we'll need to look for partners around that." ■

SCHNEIDER ELECTRIC TO REPLACE 14,000 CARS WITH EVS

Schneider Electric has announced it will join The Climate Group EV100 initiative to fast-track switching all its fleet to electric mobility.

That means replacing all 14,000 company cars in more than 50 countries with EVs by 2030, installing EV charging infrastructure in its major offices and factories by then with flagship sites showcasing innovative EcoStruxure e-mobility architecture with microgrid technologies, asset management and new energy management systems.

Schneider Electric is now a "triple joiner" of The Climate Group's EV100, RE100 and EP100 initiatives to achieve carbon neutrality in its own ecosystem by 2025 and net-zero emissions by 2030.

A leader in digital transformation of energy management and automation, Schneider Electric's announcement coincides with the launch of the 2020 EV100 Progress and Insights Annual Report, which shows EV demand is increasing and that more than 600 global organisations are progressing fast towards their goals where models are available.

The report shows corporate and leasing fleet commitments will see more than 2.5 million zero-emissions vehicles rolled out by 2030.

That will save about 42 million tonnes of CO2e, or the equivalent of the annual emissions from 11 coal power plants.

Companies have already rolled out more than 80,000 EVs and nearly 10,000 charge points for employees and customers.

However, the report also shows lack of EV supply is the biggest barrier to speedier progress for 79% of EV100 members – a third higher than last year.

According to the IPCC's special report, global CO2 emissions need to be cut by 45% by 2030 to limit climate change to 1.5°C globally.

Electric mobility is key to achieving this future, coupled with decarbonisation, decentralisation and digitisation of energy, Schneider says.

Schneider Electric has joined EV100

However, adoption of electric mobility is slower than needed.

With this new commitment, Schneider Electric wants to demonstrate that a rapid shift is achievable, while securing driver comfort and costs.

EV100 is a global initiative by The Climate Group bringing together forward-looking companies committed to accelerating the transition to EVs, to make electric transport "the new normal" by 2030.

Electric transport offers a major solution to climate change, as well as curbing air and noise pollution.

Businesses can lead through their investment decisions and influence on millions of staff and customers worldwide. By joining EV100 they increase demand, drive mass roll-out, and make electric cars more rapidly affordable for everyone.

In driving corporate EV uptake, The Climate Group works closely with regional engagement partners Ceres and Japan Climate Leaders Partnership.

The group also calls on governments to provide supportive policies to help with EV supply and uptake.

Visit **www.theclimategroup.org** and **www.se.com** for more information ■

FIND YOUR NEW EVS HERE!

NEW EV CAR TYPES

MAKE	MODEL	TYPE	PRICING RRP est.	APPROX RANGE KMS
Audi	e-tron	BEV	$148,500	417 km
BMW	i3	BEV	$77,200	200 km
	i3s	BEV	$85,900	200 km
Hyundai	Ioniq	BEV	$65,900	300 km
	Ioniq Elite	BEV	$71,990	300 km
	Kona	BEV	$77,990	449 km
	Kona Elite	BEV	$83,990	449 km
Jaguar	I-Pace S	BEV	$144,900	470 km
	I-Pace SE	BEV	$154,900	470 km
	I-Pace HSE	BEV	$164,900	470 km
Kia	Niro EX289 (39 kWh)	BEV	$68,990	289 km
	Niro EX455 (64 kWh)	BEV	$75,990	455 km
LDV	EV80	BEV	$80,489	180 km
Nissan	LEAF	BEV	$59.990	270 km
Renault	Zoe 40 kWh	BEV	$68,990	300 km
	Kangoo van	BEV	$74,990	200 km
Tesla	S - Standard Range	BEV	$129,700	520 km
	S - Long Range	BEV	$149,900	610 km
	S - Performance	BEV	$181,900	593 km
	X - Standard Range	BEV	$139,200	375km
	X - Long Range	BEV	$159,900	507 km
	X - Performance	BEV	$190,900	487 km
	3 - Standard Range Plus	BEV	$75,900	460km
	3 - Long Range	BEV	$95,900	620km
	3 - Performance	BEV	$105,200	560km
Volkswagen	e-Golf	BEV	$69,490	220 km
Audi	A3 Sportback e-tron	PHEV	$71,500	45 km + 600 km
	Q7 e-tron	PHEV	$158,400	54 km + 800 km
BMW	i3 - Range Extender	PHEV	$84,500	200 km + 130 km
	i3s - REX	PHEV	$91,900	200 km + 130 km
	i8	PHEV	$281,200	37 km + 400 km
	i8 2018 Coupe	PHEV	$286,200	55 km + 400 km
	i8 2018 Roadster	PHEV	$309,900	53 km + 400 km
	225xe	PHEV	$69,800	41 km + 550 km
	330e	PHEV	$91,600	40 km + 550 km
	530e	PHEV	$136,400	50 km + 600 km
	740e	PHEV	$202,700	48 km + 550 km
	X5 xDrive40e	PHEV	$155,500	30 km + 800 km
Hyundai	Ioniq Plug-in	PHEV	$53,990	63 km + 1040 km
	Ioniq Plug-in Elite	PHEV	$59,990	63 km + 1040 km
Kia	Niro	PHEV	$55,990	55 km + 850 km
Mini	Countryman	PHEV	$59,900	30km + 500 km
Mitsubishi	Outlander	PHEV	$55,990	50 km + 500 km
Mercedes Benz	C350 e Sedan	PHEV	$96,400	31 km + 700 km
	C350 e Estate	PHEV	$99,400	31 km + 700 km
	E350 e Sedan	PHEV	$143,500	30 km + 600 km
	GLE500 e	PHEV	$149,900	30 km + 700 km
	S500 e	PHEV	$255,000	30 km + 700 km
Porsche	Cayenne S e-hybrid	PHEV	$177,800	20 km + 750 km
	Panamera Turbo S e-hybrid	PHEV	$428,400	30 km + 750 km
Toyota	Prius Prime	PHEV	$48,490	50 km + 1000 km
Volvo	S90 T8	PHEV	$125,900	34 km + 600 km
	XC90 T8	PHEV	$134,900	44 km + 600 km
	XC60 T8	PHEV	$94,900	40 km + 600 km

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

EV FRANCHISE DEALER LIST

NAME	
AUDI / HYUNDAI / VOLKSWAGEN	
Farmer Auto Village **07 578 6017** **info@farmerautovillage.co.nz** **116 Hewletts Road, Mt Maunganui**	**Mt Maunganui**
HYUNDAI	
Energy Motors **06 759 8070 | hyundai@energymotors.co.nz** **Cnr Gill & Eliot Streets, New Plymouth**	**New Plymouth**

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USED EV CAR TYPES				
MAKE	MODEL	TYPE	PRICING RRP EST.	APPROX RANGE KMS
BMW	i3 - 22 kWh	BEV	$33k - $45k	120 km
	i3 - 33 kWh	BEV	$52k - $86k	200 km
Hyundai	Ioniq	BEV	$47k - $55k	220 km
	Ioniq Elite	BEV	$57k - $66k	220 km
	Kona	BEV	$69k - 83k	400 km
Kia	Soul EV	BEV	$30k	150 km
Mercedes Benz	B250 e	BEV	$44k - $47k	140 km
Mitsubishi	i-Miev	BEV	$8k - $13k	100 km
	B-Miev Van	BEV	$16k	100 km
Nissan	LEAF Generation 1	BEV	$9k - $16k	120 km
	LEAF Gen 2 - 24 kWh	BEV	$13k - $34k	135 km
	LEAF Gen 2 - 30 kWh	BEV	$26k - $36k	180 km
	LEAF ZE1 - 40 kWh	BEV	$43k - $63k	250 km
	e-NV200 - 24 kWh	BEV	$27k	140 km
	e-NV200 - 40 kWh	BEV	$60k	200 km
Renault	Zoe 40 kWh	BEV	$29k - $60k	300 km
	Kangoo ZE Van	BEV	$42k - $46k	160 km
Smart	Fortwo	BEV	$20k	100 km
Tesla	S P85D	BEV	$95k - $120k	330 km
	S 90D	BEV	$125k	420 km
	X 75D	BEV	$109k	340 km
	X 90D	BEV	$129k	410 km
	X 100D	BEV	$149k	480 km
	X P100D	BEV	$230k	460 km
Volkswagon	e-Golf - 36kWh	BEV	$49k - $69k	220 km
Audi	A3 Sportback E-Tron	PHEV	$41k - $50k	45 km + 600 km
	Q7 e-tron	PHEV	$125k	54 km + 800 km
BMW	i3 REX - 22 kWh	PHEV	$33k - $50k	120 km + 120 km
	i3 REX - 33 kWh	PHEV	$50k - $68k	200 km + 120 km
	225xe	PHEV	$42k	41 km + 550 km
	330e	PHEV	$50k - $76k	37 km + 550 km
	530e	PHEV	$140k	50 km + 600 km
	X5 xDrive40e	PHEV	$140k	30 km + 800 km
	i8	PHEV	$94k - $140k	37 km + 400 km
Hyundai	Ioniq	PHEV	$46	63 km + 1040 km
Mercedes Benz	C350 e Sedan	PHEV	$63k - $75k	31 km + 700 km
	GLE500	PHEV	$130k	30 km + 700 km
	E350 e	PHEV	$120k	30 km + 600 km
	S500 e	PHEV	$96k	30 km + 700 km
Mini	Countryman Cooper SE	PHEV	$68k	30km + 500 km
Mitsubishi	Outlander	PHEV	$22k - $58k	50 km + 500 km
Porsche	Cayenne S e-hybrid	PHEV	$129k	20 km + 750 km
Toyota	Plug-in Prius	PHEV	$11k - $20k	26 km + 800 km
Volvo	XC60 T8	PHEV	$115k	40 km + 600 km
	XC90 T8	PHEV	$115k	44 km + 600 km

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

USED DEALERS LIST

NAME	CITY
Autolink Cars | 09 378 9090 autolinkcarsltd@gmail.com	Auckland
GVI Electric 09 216 7106 | ev@gvi.kiwi	Auckland
Harwood Cars | 027 492 2218 www.harwoodcars.com	Auckland
Auckland City Electric Vehicles 0800 248 9387 | www.acev.co.nz	Auckland
European Car Imports 021 616 550 | sally@europeancarimports.co.nz	Auckland
Hamilton EV | 021 959 400 nicholas@hamiltonev.co.nz	Hamilton
Drive EV | 027 521 0429 | 07 378 0082 steve@driveev.co.nz	Taupo
Coventry Cars Hybrid & Electric 04 384 4536 | salesteam@coventrycars.co.nz	Wellington
EV City | 03 972 5505 contact@evcity.kiwi	Christchurch
Metro Christchurch | 03 348 5855 chrisn@metrochch.co.nz	Christchurch
Auto Court | 03 455 3000 info@autocourt.net.nz	Dunedin
The Electric Motor Vehicle Company 03 218 7130 | 027 515 8799 info@electricmv.co.nz	Invercargill

COMMUTING CONSIDERATIONS AND REALISTIC RANGE

By **Jonno Leonard**, Electric Scooter Shop chief scooter enthusiast

Two of the prime factors e-scooter buyers should be looking at are realistic range and commuting considerations.

Get these wrong and your commute will not be the peaceful glide you visualised.

Let's have a look at your daily work commute, the each-way trip you make five times a week.

You have rightly decided that ditching the car is the way to go (good call), so let's examine what you need to achieve.

Firstly, what's the total distance? Equally importantly, what's the terrain - flat or hilly? And how is the riding surface - smooth or like Baghdad on a bad day?

Do you intend sticking to the pavements or riding in the bike lanes? (not NZTA approved, but a popular practice nevertheless).

And do you have a straight run, like along the northwestern cycle path, or is it stop-start?

These factors will all affect the rate of consumption of the battery energy. And so will your personal bodyweight, and by quite a factor, especially if you are hauling up hills.

Consider these scenarios:

1. A lightweight 65kg rider, cruising at a steady pace, no stops, half throttle, flat, smooth ground, no wind, is in a scootering Utopia. These are the conditions manufacturers assess their maximum ranges under. And fair enough, they want good stats.
2. A full size adult weighing 90kg has a commute lined with traffic lights, so it's stop-start all the way, accelerating or braking. Throw in a couple of grunty hills and if the rider's in a hurry they'll hit the throttle flat out.

On the same scooter, scenario 2 could expect as much as a 50% reduction in real-world range, measured against the results in scenario 1.

It's a considerable change, and the reason the "how far does it go on a charge?" question needs a little more analysis.

If you don't have to lift the scooter in and out of a car or haul it up stairs, we recommend going large on the battery and motors.

Twin motors, with the option to kick in a second powerplant if the going gets tough, are super popular. Batteries up to 20ah are commonplace, and make a 20km commute a realistic option.

Plush suspension will save a lot of wear on your hands and joints. And that scooter will weigh in at 25kg plus. (The Dualtron II would be a great example of this style).

Weight, range and terrain are important e-scooter considerations

So, don't try and carry it far, and be prepared to heave when lifting! If you want to hop on the bus with the scooter and glide across a flat precinct to the office then a 250W super lightweight, ultra-portable folding scooter like the Inokim Mini2 may be just the ticket.

For helpful advice on making the right choices and to check out the huge scooter selection call at the Electric Scooter Shop, 25 Lake Road, Devonport, Auckland.

PERSONAL EV A SOLUTION TO CITY COMMUTE ISSUES

By **Daniel Mckoy**

Urban planners call it the "first mile/last mile problem" and it's something that cities have been trying to solve for decades.

Getting from one transport hub to another is relatively easy, but completing the last mile is not.

Major metropolitan cities overseas benefit from years of developed transport infrastructure, while New Zealand's comparatively fledging transport systems mean the beginning and end of commutes are referred to in the plural "first/last miles". Furthermore, the topography and volcanic history that give New Zealand its natural beauty also present additional problems such as steep hills and stretching harbours.

That's evident in Auckland where the local government has invested heavily in developing inner-city rail with major closures and chaos projected for years as the City Rail Link project enters stage three.

Despite plans to build an underground rail artery from Britomart to Mt Eden station, this will only intersect the middle of the CBD. That means vast areas can only be conquered using traditional transport modes. Auckland's population is projected to reach two million within the next decade, so much-publicised problems like traffic congestion and pollution could worsen.

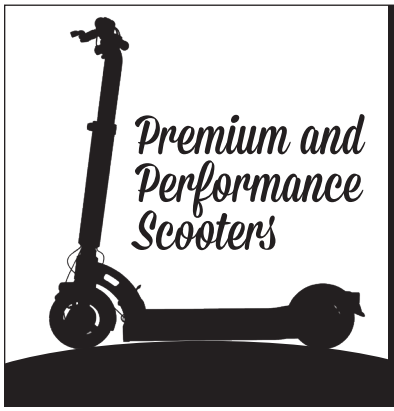
The future of urban mobility is personal and, more importantly, electric.

Even London with its famed underground and one of the remaining bastions of outdated e-scooter regulations have had to face reality as the UK government is set to begin consultation into how to regulate e-scooters, which may lead to them being legalised soon.

The arrival of e-scooter ride-sharing solutions in New Zealand has attempted to plug some of the gaps in the first/last mile problem.

Continued on page 20

MICRO EVS DIRECTORY



POWER RANGERS AT AUCKLAND PARKS

Park rangers have taken to electric bikes at Auckland's Long Bay Regional Park.

An e-bike trial in the park ranger team has been a success, Auckland Council principal ranger **Scott De Silva** says.

"We're really happy. The e-bikes work well at Long Bay and the staff are loving it".

The use of e-bikes is part of the Auckland Council's sustainability goals, reducing the carbon footprint around council activities.

"This is a great innovative solution from the parks team. Using the e-bikes means our rangers are less reliant on diesel and petrol vehicles," Auckland Council environment and climate change committee deputy chair **Pippa Coom** says.

"It is about being responsible and showing Aucklanders that the council cares about the environment and is keen to play our part".

De Silva agrees. "It also helps us keep fit and it is a real joy to ride along the paths in Long Bay."

He says the council is considering how e-bikes can be used in other parks.

Meanwhile, riders of e-bikes, e-scooters and e-skateboards can join in a free Bespoke bike day at Silo Park on February 22 for DJs, food trucks, workshops, games, stalls and activities from noon to 6pm.

Silo Park is on the corner of Beaumont and Jellicoe streets in Auckland's Wynyard Quarter.

Figures from Statistics NZ figures show more than 47,000 e-bikes and e-scooters were imported into New Zealand in 2018, double the 23,326 in 2017, *Stuff* reports.

But numbers of electric motorcycles and e-mopeds have been slower to rise, with 422 of them now having an active vehicle licence, it adds, although that's nearly double the figures for such vehicles in 2015.

"We're really happy. The e-bikes work well at Long Bay and the staff are loving it".

Rangers at Long Bay have taken to electric bikes

Continued from page 18

However, ride-share e-scooters are hard to find in less dense suburban areas, and the lottery of trying to find one particularly during peak-hour demand means many people are left with nothing. Furthermore, the pricing structure inclusive of an unlock fee and pay-by-the-minute rates result in an expensive product when used regularly and over a period of time.

Increasingly, the option of owning your own personal transportation is becoming more and more attractive.

Mango Scooters (**ridemango.co.nz**) is among a growing number of companies offering consumers the ability to own and enjoy e-scooters whenever and wherever they please. With both standing and seated options available and a range of up to 30km, all Mango models are able to fold down and be carried for ease of transportation on the bus, ferry or the car boot and pack the power to get you where you need to go.

Commuters, students and seniors now have a solution when considering how they want to get around. For those who want to explore locally or only have a few kilometres to cover during their commute, a personal EV (PEV) can completely replace a car ride or public transport.

New Zealand is ranked fourth in the world for cars per capita, and with population increasing along with peak hour congestion you can expect to see more PEVs around – especially for that last mile solution.

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ITS New Zealand

SUSTAINABILITY, SAFETY AND DIGITAL FUTURE AMONG T-TECH THEMES

Simon McManus

By **Simon McManus**, executive officer, Intelligent Transport Systems New Zealand Inc

A record number of speaker submissions were received for this year's T-Tech Future Transport Conference, with speakers from across government, transport and tech industries as well as universities and researchers submitting ideas for the May conference. **With new innovations, trends and thinking to address our transport challenges the programme committee now has the challenging job of deciding what to include in the two-day event in Wellington.**

With speakers from New Zealand, Australia and the US, the T-Tech conference has become the leading event for those who're working towards safer, more sustainable and efficient transport.

Emissions reduction is among T-Tech topics

The conference attracted more than 170 people in 2019 and we expect to exceed that in 2020, judging by the growth in submissions and exhibition opportunities which are a strong sign that interest is growing from diverse transport, technology and government sectors.

A broad range of topics in the submissions conveys the range of challenges and emerging solutions that face decision makers in transport sectors today. While new research, trends, and government policy will steer our thinking on the best solutions for New Zealand.

The conference's six themes this year aims to address some of the biggest issues.

These include Vision Zero safety, sustainability and emissions reduction, digitalisation, resilience, better urban design, and business and freight efficiency.

Sustainability topics in the programme will include EVs, and alternative fuels, green freight and "optimisation", which looks at ways to get efficiencies out of transport networks and services by reducing trips, minimising congestion and delays.

Vision Zero considers all road safety elements working together

ITS NZ has been contributing to the Climate Change Commission's transport reference group.

The government has committed to Vision Zero and intelligent transport solutions, and in-vehicle vehicle innovations can play a significant role in safety and incident management making transport safety for everyone.

Continued on page 20

WHAT'S HAPPENING?

LOCAL EVENTS

Doug Wilson (University of Auckland) Reviewing
CES, Consumer Electronics Show, Las Vegas
TRB, Transportation Research Board confi, DC
& CERV (Conference on Electric Roads & Vehicles), Utah
March

VIA – MaaS innovators
March 23-26,
Christchurch, Wellington & Auckland

T-Tech Future Transport Conference
May 4-5,
Te Papa, Wellington

INTERNATIONAL EVENTS

ITS Asia-Pacific Forum
May 25-29,
Brisbane

ITS World Congress
October 4-8,
Los Angeles

GOLD MEMBERS

Ministry of Transport TE MANATŪ WAKA
NZ TRANSPORT AGENCY WAKA KOTAHI
Fulton Hogan
Stantec
Beca
FUSION

SILVER MEMBERS

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REPORT CALLS FOR AV LAW REFORM

A new report on the future of autonomous vehicles (AVs) in New Zealand says now is the time to examine laws and regulations before it's too late.

The white paper, *The Driverless Revolution: What Next?* by **Mitchell Gingrich** and **Steven Moe** considers what is changing in AVs and asks what can be done to prepare for that.

It concludes with eight key recommendations and suggests New Zealand has the chance to be "world-leading" in AV adoption, including smoothing out legal bumps in the road and delivering a clear regulatory framework while ensuring safety for all.

Mitchell Gingrich

Recommendations include:

- A full-fledged permitting process allowing companies to test AVs on public roads in a limited manner, such as a geo-fenced area.
- Upgrading New Zealand motor vehicle standards so that AVs comply.
- Establishing an AV agency under the Ministry of Transport/NZ Transport Agency to provide oversight concerning regulatory framework and approvals for AV certification and testing.
- Updating street signs, pedestrian walkways, cycle lanes, lane markings, and footpaths.
- Establishing "autonomy zones" where geo-fenced AVs may operate for testing and then full-fledged operations.
- Address privacy and carefully navigate the concerns of AV users and all public road users as considerable data will be stored by the AV owner/operators.
- Clarify legal liability and update New Zealand law to address the liability for an AV accident.
- For fully autonomous Level 5 AVs, the need to consider whether these may be owned or operated by individual owners or only by fleet operators. Also standards for public road testing, software, vehicle and computer hardware maintenance, testing simulation, reporting requirements for AV owner/operators, IT security, privacy, and post-incident data sharing requirements. Initial registration and on-going certification process for AV safety drivers and those remotely observing and operating the AVs are suggested as well.

Gingrich, who lives in Christchurch, previously worked for Uber's Advanced Technologies Group (ATG) as a test pilot in the AV programme from 2017 to 2018. He had to collect data and contribute to the deployment of software updates as part of the autonomous fleet of more than 200 Volvo XC90 vehicles.

By December 22, 2017, Uber announced it had completed 3.2 million kilometres in automated mode testing.

However, on March 18, 2018, the trial ended after **Elaine Herzberg** became the first pedestrian to be killed by a self-driving car that was taking part in the programme.

Herzberg was struck by an auto-piloted car with a single operator while walking outside of a pedestrian crossing.

The incident made headlines globally and the Tempe Police Department produced a 300-page report on it while the National Transportation Safety Board (NTSB) provided hundreds of pages supporting the findings.

The NTSB said the immediate collision cause was the failure of the Uber ATG operator to closely monitor the road and the operation of the automated driving system because the operator was visually distracted throughout the trip by a personal cell phone.

Furthermore, it says Uber ATG had inadequate safety risk assessment procedures, ineffective oversight of the vehicle operators and a lack of adequate mechanisms for addressing operators' automation complacency.

"The collision was the last link of a long chain of actions and decisions made by an organisation that unfortunately did not make safety the top priority,"

NTSB chairman **Robert Sumwalt** says.

Gingrich says the accident was "preventable" and that avoiding such events requires "foresight, regulatory input and guidance, thoughtful planning and placing safety as the paramount purpose for any transportation project conducted on public streets".

He says the incident also serves as a reminder for how important it is to get laws and regulatory compliance in check before AV fleets appear on local roads.

He concedes the Uber ATG programme

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A number of technology suppliers have some exciting projects and innovations that are helping governments and transport operators improve performance. Technology and innovation will be front and centre for most of the conference as it continues disrupting and enabling better transport.

New data sources such as cameras, IoT devices and even vehicles themselves are helping optimise transport and becoming much more accessible, allowing fleet managers and traffic operations teams to better plan and be more reactive too.

These topics and more will fill the two-day programme, inspiring conversation

and ideas sharing among the industry and government representatives.

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Energy made Wonderful

MITO LAUNCHES NEW EV PROGRAMME

A new programme providing practical skills and knowledge to work with electric vehicles has been released by New Zealand automotive industry training organisation MITO.

The Working Safely with Electric Vehicles Micro-credential (Level 4) allows those to work safely and effectively on or around hybrid electric and battery electric vehicles or machines.

Janet Lane

"After the release of MITO's New Zealand Certificate in Electric Vehicle Automotive Engineering [Level 5] programme in early 2019, we're pleased to be able to provide an introductory programme available to all those employed in the automotive industry – not just qualified technicians."

"With increasing numbers of electric vehicles on New Zealand roads, it is vitally important that those working with them have a fundamental understanding of any EV's high voltage systems in order to mitigate the risk of severe electric shock and to ensure they are able to remain safe in their work," MITO chief executive **Janet Lane** says.

"After the release of MITO's New Zealand Certificate in Electric Vehicle Automotive Engineering [Level 5] programme in early 2019, we're pleased to be able to provide an introductory programme available to all those employed in the automotive industry – not just qualified technicians.

"This micro-credential will be of particular benefit to employers given the accessibility of the programme to those employees who may not carry out service, diagnosis and repair work on EVs, but may still work on them in other capacities such as accident and collision repair, grooming work, or wheel alignment."

The programme includes a mix of practical training and assessment to ensure learners gain safety-critical hands-on experience. It also includes eLearning, allowing course takers to complete theory elements at their own pace, with access to videos, learning activities and assessments.

Micro-credentials certify achievement of a specific set of skills and knowledge and are approved by the New Zealand Qualifications Authority.

The Level 4 micro-credential programme is expected to take two months to complete.

Visit **mito.nz/evmicro** to enrol, or phone 0800 88 21 21, email **info@mito.org.nz** for more information.

Continued from page 22

was "basically a science experiment on public roads" and this is the challenge that needs to be faced as the technology rolls out around the world.

"The reports from the NTSB and the Tempe Police Department reflect the considered opinions of experts in evaluating transportation accidents and certain aspects of their reports remain under consideration, such as whether the AV driver could or should be charged criminally for reportedly paying more attention to her smartphone than the road," Gingrich says in the report.

In 2015, Arizona had no regulatory scheme permitting AVs to operate on its public roads and the Arizona Department of Transportation announced that the absence of regulations incentivised AV testing.

"Uber ATG's fatal accident, however, has not deterred other states from aggressively pursuing the AV dream.

"A thorough and well-reasoned regulatory framework permitting AVs to operate on the public roads in New Zealand creates a stronger likelihood of preventing AVs, aka, the 'robot cars', from striking pedestrians or inflicting harm on the public roads," he says.

Gingrich, who also has a law background, has launched a consulting business with the aim of assisting the government and industry in developing policies relating to the testing and use of AVs in public areas.

Co-author **Steven Moe** is also based in Christchurch, a partner at Parry Field Lawyers and host of theseeds.nz podcast. He helps establish and provide advice to companies, investors, social enterprises and not-for-profits.

NZ working towards AV framework

The Ministry of Transport says it is working closely with the NZTA to "understand the potential new road safety risks AVs could introduce to the transport system (such as hardware and software failures, malicious hacking, and increased risk-taking)".

How AVs are deployed here will also influence the level of regulatory change required.

Rules could be simpler if AVs are owned by companies deploying them as fleets, following many of the legislative requirements business owners already have, the MoT says.

If AVs are sold for individual private use the legislation may need revision, addressing liability and risks not already covered.

EVALUATING SWITCHING YOUR FLEET

by **Roze Wesby**
Roze Wesby is ABB's global lead for digital transformation in transportation.

More on-demand and shared mobility businesses are evaluating when and how to electrify their fleets.

As climate change and pollution become increasingly critical global issues, increasing numbers of on-demand and shared mobility businesses are evaluating when and how to electrify their fleets.

If it were simply a matter of social responsibility, it would be an easy decision to make. But for most companies in this segment — especially small-to-medium enterprises (SMEs) — it's also a matter of economic viability.

After all, fleet electrification requires significant investment in vehicles and charging infrastructure. How can an SME approach e-mobility in a way that maximizes the return on that investment (ROI)? Is saving on the cost of energy enough? Are there strategies business can take to increase those savings?

And how can electrification open opportunities for new business models and revenue streams?

ABB partnered with Münchner Taxi Zentrum (MTZ) in Germany to explore the opportunities around both energy savings and new commercial models.

More fleets are switching to electric

MTZ is a taxi operator in the greater Munich municipal area, operating 10 fully electric Jaguar i-Paces in a fleet of 100 vehicles. They use five 50kW DC fast charging stations to keep their EVs on the road.

The insights gained from this study can be applied to a host of other SMEs that are seeking ways to maximise ROI as they electrify their fleets.

One of the key challenges for these companies is the inflexibility of their charging requirements. Since time spent charging is time spent not earning money, they schedule charging so that all vehicles can be on the road during peak demand times. Unfortunately, these peak charging times often coincide with the times when energy is most expensive.

The study found that investment in energy generation or storage capabilities may deliver incremental cost savings, but that alone does not deliver a compelling ROI for businesses of this size. Solutions that offer peak demand management (PDM) capabilities, however — especially digitally enabled solutions — may offer considerable value against the cost to implement them.

One effect of growing peaks in energy demand will be challenges to grid capacity, stability, and resilience. Independent distributed network operators (IDNOs) have an opportunity to mitigate this threat by investing in the peak management assets (such as energy storage) that businesses find uneconomical to invest in themselves.

SMEs can go beyond cost savings to revenue generation by capitalising on their charging infrastructure. One way to do this is by selling spare capacity. With relatively inexpensive digital platforms, they can easily market and schedule parking and charging services to other businesses that operate EV fleets.

The opportunities that exist today will continue to evolve with the increasing penetration of distributed energy resources (DERs) in the grid and emergence of Energy-as-a-Service (EaaS) models.

Increasing regulations for energy trading and data ownership will also have an impact.

Businesses able to capitalise on these opportunities today will not only reap the economic rewards but will also play a significant part in guiding the evolution of energy policy in the electrification revolution.

Visit http://search.abb.com/library/Download.aspx?DocumentID=9AKK107492A9614&LanguageCode=en&DocumentPartId=&Action=Launch for the full report.

Mercury Drive's newly arrived VW e-Golfs

MERCURY SPARKS UP ALL-ELECTRIC CAR SUBSCRIPTION

About 50 EVs will be added to Mercury's **Drive** vehicle subscription service within about eight weeks.

It established the battery electric vehicle (BEV) public service pilot in association with Snap Rentals in August 2018 and received a flurry of online registrations, phone calls and enquiries from not only people interested in using the service but other players in the market, competitors and even many from overseas.

The Drive EV subscription service is hailed as the first of its kind in New Zealand and incorporates or will include a variety of EVs from Gen 1-4 Nissan Leafs, Volkswagen e-Golfs, Teslas and more, Mercury product and innovation head **Oz Jabur** says.

"The more variety we have the better as people want choice and model variation."

He says last year was a big test and learning exercise for Mercury as it fine-tuned the subscription service.

"People were raving about their experience and the cars, particularly that with such a service they would not have to own a car."

Jabur says that could lead to an "asset-less economy".

"People are happy renting – whether homes, movies, etc, and now cars as vehicle up-front costs can be huge."

Customers can browse Drive vehicles online and for from $399 a month get Snap Rentals to deliver the vehicle of choice and at the same time provide a walk-through of all they need to know about the EV.

Drive customers can keep the EV as long as they want (one, three, six and 12-month renewable terms) and have all the insurance, registration, warrant, maintenance and other costs covered, along with unlimited kilometres and even roadside assistance.

The other worry for customers is the depreciation that comes with owning a vehicle, which through Drive they don't have to worry about.

Using the service is also an educational experience for some.

"Many people still don't understand EVs and some may ask if they can drive in the rain, for instance," Mercury product and operations manager **Kane Bublitz** says.

"Customers have even sold their ICE (internal combustion engine) vehicles after taking the plunge with Drive," he adds.

"Many say they are not going back [to ICE] after trying Drive, and they also like the fact the EV is delivered to them rather than having to pick it up."

Bublitz says many customers are going for three to six-month subscriptions, with one month and 12 months also included in options.

A concierge service is also provided in the unlikely event anything goes wrong with the Drive EV.

Fixed monthly costs make it easier on the pocket with payment options so customers can budget with certainty, Jabur adds.

"Customers are saving a lot in the long-term."

Jabur says there's much less wear and tear on an EV, let alone in savings through not having to use petrol or diesel.

"You can compare paying about $2 per litre at the pump with the equivalent of paying about 30c a litre in electricity costs."

And you can charge for free in certain locations using public EV chargers.

The e-mobility revolution is about the various ways of getting around, such as e-scooters, electric trains, buses, ferries and the like.

Drive brings another option and is expected to continue to grow in popularity as people test and understand the benefits.

Visit **https://evdrive.co.nz/ for** more information.

DOCTOR PRESCRIBES EVS

EVs are good medicine for humans and for the planet, **Kathy McKay** says.

She is keen to dispense the many benefits of EVs to others after owning a Renault Zoe for two years and never visiting a service station in that time.

Two other doctors in the Queen Street Doctors practice in Auckland where McKay works also have EVs – in this case both Nissan Leafs.

Doctors **Ali Goldkorn** and **Nadina Thwaites** are great EV enthusiasts with Goldkorn the first to get one and teaching the others about EVs.

McKay says she and husband **Alan** have always been environmentally minded and aimed to get an electric car.

Their chance came in December 2017 when their two cars needed replacing and the time was right to make the switch.

"We could not consider it earlier as we needed a 250km plus range to get to our conservation block in the central North Island," McKay says.

The Zoe they bought in January 2018 has about 290km range - which they need to visit the conservation block they bought more than 20 years ago, as a result travelling up to 25,000km annually.

"We are involved with native forest regeneration and predator-free areas for birds," McKay explains.

The couple is also considering an electric all-terrain vehicle to help with conservation efforts and regularly check out renewable energy resources that will help the environment.

In fact, they can probably hear the bird song from their Zoe, it's that quiet.

An Auckland doctor for more than 30 years, McKay says she won't return to an ICE car as driving electric is very quiet and easy and the Zoe will probably pay for itself within five years.

"We drive mainly on ECO and we try and travel light so we can go further," she adds.

"The acceleration is fabulous. We always wave at other Zoes we meet, occasionally the odd Leaf driver will give us a nod as well.

"There's a real camaraderie at the charging stations, lots of tips and advice are exchanged."

One problem they've encountered is that very few people know about EVs, and the McKays had to find other EV owners to help – such as **Steve Greenwood** from Drive EV in Taupo, who they have never met but has proven "our most valuable resource".

"He got in touch with us through a Facebook page when we encountered our first problem," McKay says. "I still text him for advice, especially when planning a long trip."

A Zoe Facebook page has also been very useful for the McKays.

That's cemented their belief more education is needed on the practicalities of EV ownership and use.

"For instance, if driving around Auckland we only need to charge once a fortnight which has surprised a lot of non-EV owners," McKay says.

Home charging also brought up some issues.

"We were originally told to use a domestic plug to charge the Zoe but that took 24 hours," McKay says.

They were advised to get a 30-amp charger, which cost them $1000, so now can fully charge the Zoe in four hours.

"The charging infrastructure is getting better all the time and making long trips much easier," McKay says. "We really appreciate the shops that have chargers outside and it does encourage one to stay longer in the shop and spend more.

"For us the switch to EVs has been very positive and we would always buy another."

DELTA DC RANGE CATERS FOR EVERY BUDGET

As vehicle battery technology evolves, in both density and power, it is more important than ever to understand the true value of rapid DC charging to your fleet or facility.

Whether it is allowing true flexibility and convenience for your fleet of EVs, providing a service for tenants or a perk for customers, DC charging is undeniably beneficial.

How many vehicles need to use it at once? Are there upstream limitations? What is the cost and potential payback? The Delta range of DC chargers provides a solution for every budget and requirement.

Currently New Zealand's most popular entry level DC Charger, the Delta 25kW DC Wallbox provides somewhat of a 'safety net' to fleets and a great value-add for consumers doing their food shop or browsing the mall, delivering 100-150km of range per hour (vehicle dependent). This robust wall-mount unit boasts a large, flat face plate, lending itself well to the all-important branding exercise. It requiries a modest 50A 3-phase supply and OCPP communication interface.

New in the Delta DC lineup is the CityCharge.

Due to arrive in New Zealand in September, this small yet mighty unit is set to be a game changer. Available in 50kW or 100kW variations, the CityCharge provides a simultaneous DC charge with the option to add a 22kW AC socket.

Able to charge up to three vehicles at once at a rate of 200-300km per hour (on the DC connectors), the CityCharge is perfect for commercial and public applications.

The CityCharge is compatible with ISO15118, most commonly known as 'Plug n Charge', obtaining vehicle identity and state of charge information from compatible vehicles, eliminating the requirement for vehicle specific access cards and allowing sophisticated charging management features such as priority charging based on state of charge.


YHI's Delta fast charger

Not to be outdone by its new shiny sibling, the Delta UltraFast Charger has its roots firmly cemented, with hundreds of installations throughout the world.

Continued on page 29

POWER DEALS FOR EV USERS

Company	Energy Deals	Where	Cost to charge LEAF*
Meridian	**Electric Car Plan:** Super-low night rates from 9pm until 7am daily. Available for your entire home's electricity needs. Rates are fixed for 3 years. Plus get a year's worth of free EV charging on us! (bill credit of up to $300)	Auckland Wellington Christchurch	$4.91 $4.15 $2.82
Mercury	**Plug-in Vehicle Fuel Package** 20% discount on your energy bill from 9pm – 7am, available on multiple properties, guaranteed discount for 2 years from signing up to offer, 12% PPD is included in these calculations.	Auckland Wellington Christchurch	$5.75 $5.82 $5.63
Contact Energy	**Everyday Bonus Fixed:** Excellent night rates, no fixed term, check if the matching day-time kWh rate will affect your overall bill.	Auckland Wellington Christchurch	$5.57 $4.60 $3.28
Ecotricity	**Low Solar:** Low Usage plan for EVs & can buy back solar energy, no fixed term	Auckland Wellington Christchurch	$7.16 $4.53 $3.20
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	$6.82 $6.86 $6.71
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	$5.80 # $5.75 # $3.46 #
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	$6.81 $4.23 $3.73
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	$4.42 #

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

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

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

AUCKLAND E-FERRY GETS GRANT

Callaghan Innovation has approved grant co-funding towards a $1.4 million project to develop electric fast ferry technology.

The project will enable EV Maritime to strengthen its in-house team as well as to contract America's Cup designers, fluid dynamicists and structural designers, together with one of New Zealand's leading firms of electrotechnical engineers, to ensure a ferry for the future, EV Maritime co-founder **Michael Eaglen** says.

The former chief executive of Auckland shipyard McMullen & Wing, together with McMullen & Wing owners **David** and **Terry Porter**, set up EV Maritime last year.

The company specialises in zero-emission and low-emission boats and is initially focused on ferries.

The first product is a 24-metre, 25-knot, 200 passenger zero-emission battery electric ferry, designed to meet the needs of commuter networks and tourism operations around the world.

EV Maritime is also developing dockside high-capacity fast-chargers which will enable its fleets to operate continuously without extra charging delays.

Public transport is a key area of focus, to contain climate change, with buses and ferries making up major components of city emissions profiles.

Even Auckland's relatively small ferry fleet produces as much as half the greenhouse gas emissions of Auckland's entire fleet of 1360 buses, already slated for replacement with electric alternatives.

In fact, Auckland will get 12 e-buses this year. Auckland Transport and its operator NZ Bus have agreed to switch all CityLINK bus services to electric by the end of 2020.

Auckland mayor **Phil Goff** says their introduction is a step towards electrifying the rest of Auckland's bus fleet.

EV Maritime says its electric ferries can offer up to double the emissions reduction per dollar of investment compared with electrifying the buses.

Near-silent operation and elimination of exhaust fumes promise to transform the passenger experience.

A reduction in the number of moving parts also brings greater reliability.

EV Maritime's analysis forecasts very significant cost efficiencies, both in energy savings and reductions in repairs and maintenance costs and downtime.

Initial analysis on the application of EV Maritime's vessels to the Auckland commuter network demonstrates the through-life savings running into hundreds of millions of dollars.

The company has sought to re-imagine what ferries can be at all levels, showing the influence of a leading New Zealand-based international industrial and automotive designer on the team.

The advanced composite vessel has borrowed engineers straight from the America's Cup development programme to deliver a light, strong, fast and reliable structure.

That's made possible and practical by EV Maritime's decision to introduce modern intelligent control systems, delivering precise docking control and opening the door to future augmented and even autonomous control.

EV Maritime's advanced hydrodynamic programme has already found very significant efficiency savings and low-wash benefits compared with their baseline reference vessels. The electrical and electronic systems being developed are state-of-the-art, with advanced remote and on-board monitoring and PLC control to deliver safety, reliability and longevity, Eaglen says.

EV Maritime is embarking on what could be NZ's first circular economy analysis for boats.

Extending that further. The firm was also selected to participate in X-Labs, Auckland's first circular economy think tank, looking for ways to ensure the lifecycle of its vessels and component parts leave the lightest touch on the world and its resources.

EV Maritime says it is grateful for early funding received from community trust Foundation North under their Gulf Innovation Fund Together initiative and from Auckland ferry operator Fullers 360, which has no commercial involvement in EV Maritime.

Further investments are in progress to see the development of EV Maritime's first vessel through to realisation.

Eaglen says Callaghan Innovation's grant is a major boost towards this programme.

EV Maritime believes that zero-emission and low-emission maritime technology is the next global maritime opportunity.

With New Zealand able to take the lead.

Visit **www.evmaritime.com** for more information. ■

Continued from page 28

The UFC offers scalable power and charging for up to four vehicles at once; 2x DC (CCS and/or Chademo) and 2x AC (43kW type 2 tethered and 22kW type 2 socket).

This intuitive solution will adjust DC output between the connectors depending on the type and state of charge and will allow simultaneous uninterrupted maximum AC output.

The true home for a Delta UltraFast Charger is a busy, mixed fleet environment, a valet service or a logistical hub. Like the whole Delta DC range, the UFC uses OCPP for communications.

Whether you manage a fleet, operate a small business or manage a portfolio of properties, there is a rapid charging solution to suit.

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

RYMAN'S SUSTAINABILITY DRIVE POWERS AHEAD

New Zealand's largest retirement village operator is stepping up its investment in electric cars after a successful trial in Auckland.

Ryman Healthcare, which owns and operates 36 retirement villages in New Zealand and Victoria and has another 20 in the pipeline, bought its first three electric Hyundai Konas early last year and has just taken delivery of another two.

The cars were trialled as Ryman eCabs for residents.

The eCabs are able to be booked by residents for appointments, Ryman Healthcare corporate affairs manager **David King** says.

Ryman Healthcare supplies a driver and the electric Kona to whisk residents to and from appointments.

The idea for the service came from Ryman's operations team who wanted to find a way for residents to maintain their sense of independence after losing the ability to drive themselves.

"Driving and mobility can become big issues for residents," King says.

"Losing a licence can have a huge impact on our residents' mobility and independence, especially when they have health issues that require regular visits to the doctor or the hospital.

"We wanted to introduce a service that took the pain and guess work out of getting around for them, but one that did not add to our carbon footprint at the same time."

The eCabs have quickly gone from being a novelty to becoming an integral part of daily life at the villages where they have been introduced.

Residents love the convenience of the service, as well as knowing they're doing their bit to reduce the village's carbon footprint.

Ryman Healthcare is part of the Toitu carbon reduction scheme since 2018 and is committed to reducing its carbon footprint.

The company has also trialled a charging network for electric cars at five of its Auckland villages after winning funding from the Energy Efficiency and Conservation Authority (EECA).

Auckland-based regional operations manager **Arthur Keane** has managed the eCab roll out for Ryman. After a successful trial the project is being expanded.

"One of the most important things for older people is the height of the car for access. While everyone has different needs the Konas have proven easy to get in and out of," he says.

"They are lovely to drive and the range is fantastic. We trialled three and we've bought another two, so we can roll the eCab project out further."

The only reservation Keane has had is around boot space – the Konas only have space for one walking frame, which can be limiting.

"We'll be looking at options with a greater amount of boot space in future," he says.

Arthur Keane

Ryman Healthcare's Auckland community relations representative Steph Cawte at Grace Joel Retirement Village


Ryman Healthcare now has five Hyundai Kona Electrics

King says Ryman Healthcare has a Sustainability Leadership Team whose job it is to champion projects which will cut the company's environmental impact.

The team includes leaders from across all parts of Ryman, including the procurement team.

"We went from thinking it was a good idea to being up and running in a short space of time thanks to our procurement team. It may have helped that I've owned a Nissan Leaf for a long time, and I've been spreading the gospel about electric cars to anyone who will listen," King adds.

"We were also fortunate in that the idea of switching to electric cars coincided with the development of our new eCab service for residents. It connected a lot of dots – it was good for residents and good for the environment.

"Our residents love the service, and they're interested in leaving the planet in a good state for their grandchildren and great grandchildren. And so are we."

King bought a Leaf in 2016 and hasn't looked back.

"I swapped it for a geriatric diesel Pajero so the reduction in running costs was dramatic – by my calculations it costs us about 90% less to run. We've clocked up 30,000km in it and it hasn't missed a beat.

"My daughter has just learned to drive in it and the reality is she will probably never drive or own a fossil fuel car. I think that is great for her and the planet."

Kyle Esterhuizen, left, and Kevin McClatchy have formed EVready for EV charging solutions

CHARGING FORWARD WITH EVS

What type of charger do I need and is there enough electrical supply to install one?

These and many more questions should be what anyone getting into the electric vehicle market can get answers to.

EVready can help, providing custom tailored solutions for EV charging.

Charging EVs and getting the right solution for your needs can be challenging for new owners.

EVready says misinformation on how charging systems work abound. The New Zealand firm, backed by Ester Electrical and Momentum Electrical, says some clients have been quoted charging products by others that are far over spec'd for their needs.

This boils down to many installers having a lack of understanding on how the chargers work and a lack of knowledge on how to design a system that works for you, **Kevin McClatchy** of Momentum and **Kyle Esterhuizen** of Ester say.

"We decided we wanted to change this to help make the move to electric vehicles as easy and straight forward as possible for everyone, from residential homes, to businesses and buildings."

EVready is dedicated solely to the supply and installation of EV chargers and providing charging solutions.

"We offer a unique custom turn-key solution for everything charging related to help keep your battery full and your wheels turning," they say.

Solutions can range from simple plug and play charging at home to more complicated multiple charger commercial set ups with online monitoring.

Esterhuizen and McClatchy are both highly experienced electricians who run electrical contracting businesses based in Auckland.

"We have always had a keen enthusiasm for the EV market and are big supporters of the cleaner energy movement," McClatchy says. "After meeting with many charging industry leaders over the years to get solutions for our own clients, we decided by pooling our resources we would be able to offer a unique service to help grow and drive the market change."

So, what type of charger do you need? This comes down to what you would like to use the charger for.

For simple home or single unit installs we normally suggest a single phase 7.4kW unit, McClatchy says.

For multiple chargers you would use a similar size unit but with a integrated load sharing function so you don't overload your supply.

Do I have enough electrical supply to install a charger?

Certainly, any house or building with an electrical connection has enough supply to charge a car. How fast it can charge the car, however, will depend on how much spare loading is available which can also be a question of when you intended to charge your car.

All the chargers EVready supplies can be programmed from a phone or computer on a schedule so it will turn on at low power consumption periods and off again in peak power periods.

Can I have multiple chargers? Yes, you can! This is very easy to do and all chargers we install have a fully integrated monitoring system for billing and management, McClatchy says.

Any other questions about EV charging are welcome too.

Visit **www.evready.nz** for more information.

EVS ON THE UP

EV registrations climbed 593 on December's 18,692 to reach 19,285 in January 2020.

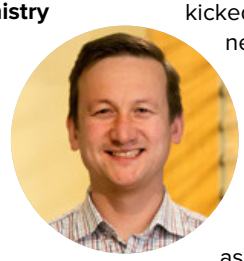
Used light pure electrics continue to lead the pack - the latest **Ministry of Transport** EV registration figures showing 10,514 in January, up 291 on the previous month's 10,223.

New light pure electrics are next up with 4011 registrations, a 139 increase on December's 3872.

For the plug-in hybrid (PHEV) market, it's the other way around with new PHEVs leading on 2969 – up 89 on December's 2880.

In the used PHEV category, the figures show January's 1616 is 74 up on 1542 for the prior month.

Heavy EV registrations remain unchanged at 175.



Alan Clark

A predicted bounce back for EVs in January proved spot on for Trade Me Motors.

"After the Christmas break, some Kiwis kicked off the New Year looking for a new EV. In January, we saw a 27% jump in the number of watch-listed EVs when compared to December," Trade Me Motors head **Alan Clark** says.

The number of watch-listed EVs increased 11% on last January as more Kiwis opt for an electric alternative, he says.

The Nissan Leaf remained by far the most popular EV onsite for Trade Me Motors.

EV dealers are generally watching to see if any impact will come from the coronavirus, but meanwhile expect a good February.

However, many are unhappy with the government's lack of action on the EV front, especially in terms of the Clean Car proposals which includes emission standards and a feebate.

Hayden Johnston

Some, like GVI Electric's **Hayden Johnston**, suspect the government might be saving some EV related announcements for the election run up.

But he's pleased to see the government's low emission vehicles contestable fund is continuing to support EVs and EV-related projects through EECA – "this has certainly helped a lot of organisations".

Johnston says that although January started slowly the month was "huge" for EV sales for GVI Electric, with February expected to be similar.

"We are also working with a lot more companies which are looking at fleet conversion, so this is very positive."

A drop in new Nissan Leaf sales in Japan won't affect supply immediately but is likely to have an impact here in 12 to 18 months, Johnston believes. That's when the vehicles usually hit the used market in Japan.

"It may mean less older model Leafs available that would normally be traded on a new Leaf."

Martin Harwood of Harwood Cars in Auckland says EV incentives were telegraphed but have never eventuated.

Martin Harwood

"As I said, it would be looking after the rich people – it's not a runner now we have an election coming."

January proved eventful for the Harwoods. Manager **Lorna Harwood** survived a damaging typhoon while holidaying in the Philippines and returned to sell five cars in her first week back at work.

That sale trend continued all month.

Hot weather and the end of the school holidays contributed to a slow February start, although it's picked up since.

However, Martin Harwood is concerned about the impact of the coronavirus, adding that time will tell.

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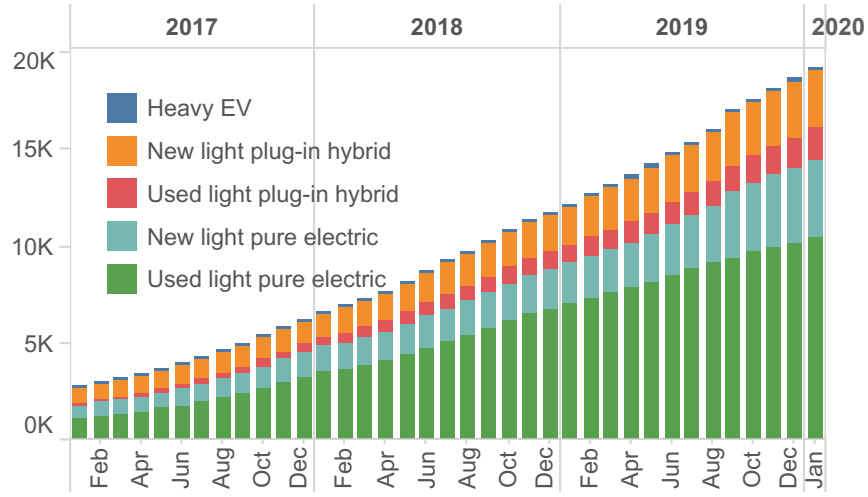
EV fleet size



	2013	2014	2015	2016	2017	2018	2019	2020
Jan	194	235	595	1,117	2,758	6,630	12,200	19,285
Feb	194	246	625	1,153	2,986	6,918	12,725	
Mar	202	286	683	1,226	3,193	7,255	13,186	
Apr	202	329	716	1,319	3,377	7,632	13,659	
May	204	367	745	1,405	3,661	8,200	14,229	
Jun	207	391	796	1,599	3,969	8,707	14,867	
Jul	208	418	844	1,751	4,258	9,249	15,421	
Aug	210	442	873	1,875	4,593	9,759	16,031	
Sep	213	467	917	1,989	4,926	10,255	17,026	
Oct	221	494	957	2,153	5,361	10,891	17,562	
Nov	226	527	1,002	2,374	5,840	11,380	18,186	
Dec	230	554	1,056	2,555	6,216	11,752	18,689	

MORE MODEL 3S

The **Tesla Model 3** maintains its grip on the top spot for new EV sales in New Zealand.

It sold 48 in January, down from the 104 sold in December, 52 in November and 82 in October 2019, according to Motor Industry Association (MIA) and NZ Transport Agency figures.

About 657 **Model 3**s sold in New Zealand since they landed here from late August. Tesla was the first EV to break into the top 10 of all new car sales in October last year.

Meanwhile, the **Hyundai Kona EV** was next in January's new EV sales figures, 10 below the **Model 3** at 38.

The new **Nissan Leaf** was third with 10, followed by the **Hyundai Ioniq** with eight, **Jaguar I-Pace** on seven, and the **Tesla Model X** and **Audi e-tron** with six each.

No change in ranking for the **Mitsubishi Outlander** plug-in hybrid (PHEV) either, still at the top in the new PHEV category with 46. The **Porsche Cayenne** is second with 10, followed by the **Mini Countryman** on nine.

The **Nissan Leaf** continues to dominate in used imports, sitting at 265 sales during January, with all the rest in single figures.

The **Toyota Prius** climbed just ahead of the **Outlander** in the used imports PHEV category, recording 33 sales against the latter's 31 – the only two makes in double figures in that sector. ■

The Tesla Model 3 still tops the new EV sales charts.

Continued from page 32

He also applauds the latest EECA funding round putting more money towards charging infrastructure especially.

On the fall in new Nissan Leaf sales in Japan, he says New Zealand will be hit hard as more low battery state of health cars are offered New Zealand than ever from 2011.

Henry Schmidt

"As for side air bag Gen 2 models, there is now a premium of up to $3000 for this model - and the Japanese seller know this."

Auckland City Electric Vehicles (ACEV) general manager **Hadley Hargadon** is also concerned about the impact of the coronavirus.

"It's worrying for us. It could impact on anything to do with imports – it's unknown at this stage."

Hadley Hargadon

Hargadon says second-hand EV sales are still tracking consistently and well.

"We're looking forward to some new models also coming in this year."

The latest EECA funding should also help by providing more EV charging infrastructure, he adds.

Henry Schmidt of Autolink Cars in Auckland is also pondering the coronavirus' likely impact. "It could have some affect," he says, noting custom has declined in Chinese restaurants he knows of.

He says EV sales are "ticking over", while people he knows in the internal combustion engine trade are saying it's quiet there.

Britain's proposed move to ban new fossil-fuelled vehicles within 12 years, adding hybrids to the ban as well, should be taken into consideration here, he believes.

While pleased to know EECA funding is supporting the EV industry, Schmidt says the coalition government continues to underdeliver on promises or proposals for the EV sector. ■

USED IMPORTS JANUARY 2020

MAKE	MODEL	JAN'20	YTD'20
BEV - BATTERY ELECTRIC VEHICLE			
NISSAN	LEAF	265	265
BMW	I3	8	8
MITSUBISHI	I-MIEV	3	3
NISSAN	E-NV200	3	3
RENAULT	ZOE	3	3
VOLKSWAGEN	E-GOLF	2	2
JAGUAR	I-PACE	1	1
SMART	FORTWO	1	1
TESLA	MODEL S	1	1
Total		**287**	**287**
PLUG IN HYBRID			
TOYOTA	PRIUS	33	33
MITSUBISHI	OUTLANDER	31	31
BMW	I3	8	8
BMW	330E	2	2
VOLKSWAGEN	GOLF	2	2
MERCEDES-BENZ	C350	1	1
MERCEDES-BENZ	S	1	1
BMW	I8	1	1
Total		**79**	**79**

NEW MAKES AND MODELS 2020

MAKE AND MODEL	Jan '20	TOTAL 2020
ELECTRIC		
TESLA MODEL 3	48	48
HYUNDAI KONA	38	38
NISSAN LEAF	10	10
HYUNDAI IONIQ	8	8
JAGUAR I-PACE	7	7
TESLA MODEL X	6	6
AUDI E-TRON	6	6
BMW I3	5	5
TESLA MODEL S	5	5
MERCEDES-BENZ EQC	4	4
VOLKSWAGEN GOLF	3	3
Total (Autobase)	**140**	**140**
PLUG-IN HYBRID		
MITSUBISHI OUTLANDER	46	46
PORSCHE CAYENNE	10	10
MINI COUNTRYMAN	9	9
TOYOTA PRIUS	7	7
HYUNDAI IONIQ	4	4
BMW X5	3	3
BMW I3	2	2
BMW 3 SERIES	2	2
VOLVO V60	2	2
VOLVO XC90	2	2
BMW I	1	1
VOLVO S60	1	1
VOLVO XC60	1	1
Total (Autobase)	**90**	**90**

PLUGGED IN!

Stay connected to the EV community with useful links below.

EECA	NZ government's EV information website **https://www.electricvehicles.govt.nz/**
Drive Electric	Advocacy group for the EV industry **https://driveelectric.org.nz/**
EV Association of Aotearoa	EV owners association **https://www.evaa.co.nz**
Charge Net	Nationwide EV charging network **https://charge.net.nz/**
Electric Heaven	NZ electric car guide **http://www.electricheaven.nz/**
NZ EV Podcast	Monthly podcast about EVs **https://www.podcasts.nz/nz-ev-podcast/**
Flip the Fleet	EV Community data sharing project **https://flipthefleet.org/**
NZ Electric Bikes Review	Independent electric bike reviews **https://electricbikesnz.com/**

EV OWNERS FACEBOOK GROUPS – ONLINE CHAT GROUP FOR THE NZ EV COMMUNITY

Nationwide	
NZ EV Owners	**https://www.facebook.com/groupsNZEVOwners**
Regional	
Auckland EV Owners	**https://www.facebook.com/groups/291373964545996/**
Wellington EV Owners	**https://www.facebook.com/groups/WellyEV/**
Waikato EV Owners	**https://www.facebook.com/groups/WaikatoEV/**
Dunedin EV Group	**https://www.facebook.com/groups/403816650002889/**
Christchurch EV Group	**https://www.facebook.com/groups/ChristchurchEVGroup/**
EV Owners - Manawatu	**https://www.facebook.com/groups/1847252468838484/**
Nelson Tasman EV Owners	**https://www.facebook.com/groups/365895557107117/**
Northland EV Group	**https://www.facebook.com/groups/northlandEVgroup/**
Bay of Plenty EV Owners	**https://www.facebook.com/groups/BayOfPlentyEVOwners/**
Central Otago Lakes EV Owners	**https://www.facebook.com/groups/521978908249518/**
Naki EV Owners Group	**https://www.facebook.com/groups/375210949597565/**
South Canterbury EV Owners	**https://www.facebook.com/groups/southcanterburyev/**
INVER-ELECTRIC-CARGILL	**https://www.facebook.com/groups/250609535293325/**
ELECTRIC ISLAND WAIHEKE	**https://www.facebook.com/evisland**

NZ SWITCHING TO SOLAR

Solar panels are being installed in New Zealand on a daily basis. That's according to solar installation specialists Bright Light Electrical, which has been servicing the wider Waikato region for more than three years.

It bases the claim on actual installation experience from Taupo to Cambridge, Hamilton to the Bay of Plenty, Coromandel and beyond.

EVs with bi-directional charging capability will be able to power up from solar and also put power back into the home or business when needed

"We installed a system on the east coast of Coromandel on a Tuesday and then installed a solar power system on the west coast in Raglan on the Wednesday."

The company says bi-directional charging available in some EVs will provide the final piece that brings it all together, combining EVs with PV solar panels and energy storage systems.

Bright Light Electrical has been working in the solar power industry for more than six years - beginning with 185W panels and lead acid off-grid batteries through to new technology such as lead carbon and now lithium energy storage systems with 315W PV panels.

The firm supplies and installs directly to customers but also operates on a 'no conflict of interest' policy towards all the leading solar power sales and design companies it installs for.

Solar power is gaining increasing acceptance in New Zealand

The registered licensed electricians say they're the first generation of the green world – and their children will be the first generation of a sustainable world looking to a bright future. ■

EVAA PULLS PLUG

The Electric Vehicle Association of Aotearoa (EVAA) has closed.

"Unfortunately due to various factors the association was not able to achieve its goals of becoming an independent voice for the electric vehicle owners of New Zealand, a living, breathing and active heart for the community," the association says on its Facebook post before stopping on January 31.

"Nobody likes a half-baked endeavour, so the hard decision was made to pull the proverbial plug on EVAA.

"We would like to take this opportunity to thank everyone who supported us, encouraged us and helped us along this journey, and we wish you all the best for 2020 and many, many more years to come.

"Enjoy driving electric, enjoy leading the charge and most of all, enjoy every moment in life that you get to share with loved ones."

The EVAA was launched in July 2018, featuring on *EVtalk*, and was run by Waikato EV Owners' Group co-ordinator **Justin Boyd**.

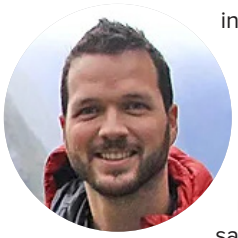
It was established to act as an independent voice for its 400 members, providing a fair and honest authority for managing manufacturer, supplier and end-user relations.

The EVAA also aimed to support innovative research and work to help EV uptake, provide guidelines for acceptable standards and promote EV use and demand by supplying information on the use and merits of driving electric to both central and local government, corporates and the public.

Messages have been pouring in since the EVAA announced its closure.

"We had huge support with people joining when we started, but the operational side has been difficult," Boyd says. "People were often unavailable to help out."

Boyd is busy running his own business Good Habitat, which has sustainability as a core value in creating architectural concepts and visualisation, graphics and web design.



Justin Boyd

While he would have loved to keep the EVAA going, Boyd says it's "way too much" for just one person to deal with.

He wanted to keep it voluntary and independent rather than make the EVAA a paying prospect.

"Many have asked why it's closing – some asking if it's because not enough people are buying EVs, but it's nothing to do with that," Boyd says.

"Some felt it could be like an owners' club and perhaps offer roadside assistance for EVs or be like the Norwegian EV Association.

"The key was in getting the ball rolling on EVs in New Zealand. Kiwis are a really strong community and the Government is pro EVs so from a political point of view the EVAA wasn't really needed." ■

EV CHARGING LOCATIONS

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

Fast / Super Charger Locations – North Island

Waitiki Landing	9049 Far N Rd, Te Hapua 0484
Pukenui	Houhora Fishing Club, 4126 Far Nth Rd
Coopers Beach	Four Square, 9 Coopers Dr
Kaitaia	Te Ahu, 28 South Rd
Kaitaia	Pak'nSave, 111 North Rd
Kerikeri	1 Butler Rd
Opononi	Four Square, 29 SH12
Kaikohe	Library Carpark, 14 Marino Pl
Kawakawa	4 State Highway 1
Tikipunga	Paramount Plaza, 1 Wanaka St
Whangarei	11 Alexander St
Raumanga	McDonalds, 130 Tauroa St
Dargaville	Totara St Park, 113 Totara St
Kaiwaka	1 Kaiwaka-Mangawhai Rd
Warkworth	New World, 6 Percy St
Warkworth	BP, 67 Auckland Rd (SH1)
Orewa	New World, 11 Moana Ave
Silverdale	17 Hibiscus Coast Hwy
Albany	The Warehouse, 186 Don McKinnon Dr
Rosedale	McDonalds, 14 Constellation Dr
Kumeu	New World, 110 Main Rd
Henderson	Pak'n'Save, 224 Lincoln Rd
Akld CBD	Vector, 21 Hobson St
Beach Rd	Z Station, 150 Beach Rd
K Road	Tesla, 501 Karangahape Rd
Newmarket	1 Gillies Ave
Greenlane	McDonald's, 320 Gt Sth Rd
Pakuranga	BP, 322 Pakuranga Rd
Botany Downs	Z Station, 550 Te Irirangi Dr
Akld Airport	Shopping Ctr, George Bolt Mem. Dr
Akld Airport	Z Skyway, George Bolt Mem. Dr
Takanini	30 Walters Rd
Takanini	Pak'nSave, 345 Great South Road
Coromandel	44 Woolams Rd
Whitianga	4 Lee St
Tairua	Carpark, 6 Tokoroa Rd
Pukekohe	King Street Carpark, 56 King St
Pukekohe	Counties Power, 14 Glasgow Rd (Bus hrs)
Waiuku	Kitchener Rd Carpark
Thames	505 Mackay Street
Whangamata	100 Hetherington Road
Hampton Downs	Gate 1, Motorsport Park
Te Kauwhata	16 Wayside Rd
Waihi	New World 35 Kenny St
Huntly	Countdown, 18 Tumate Mahuta Dr
Morrinsville	New World, 79/89-97 Thames St
Te Rapa	WEL Networks, 114 Maui St
Rototuna	Countdown, 160 Peachgrove Rd
Matamata	New World, 45 Waharoa Rd
Hamilton	Tesla, The Base, Te Rapa Rd
Hamilton	Countdown, 551 Anglesea St
Claudelands	Coutdown, 160 Peachgrove Rd
Hamilton	Caro St Carpark, 7 Caro St
Hamilton	Countdown, 4 Bridge St
Ruakura	Waikato Innov. Pk, 9 Melody Ln
Raglan	43 Bow St
Tirau	3 Station St
Mt Maunganui	Bayfair, 19 Girven Road
Mt Maunganui	New World, 1 Tweed St (25 kWh)
Cambridge	73 Queen Street
Pirongia	Four Square, 270 Crozier St
Te Awamutu	10 Scout Lane
Whakatane	i-Site, 30 Quay St
Opotiki	i-Site, 70 Bridge St
Te Kaha	Te Kaha Bch Res, 3 Hotel Rd
Te Araroa	22 Rata St (25 kWh)
Rotorua	1134 Haupapa St
Tokoroa	New World, 72 Bridge St
Matawai	6522 Matawai Rd
Tolaga Bay	43 Cook St (25kWh charger)
Te Kuiti	New World, 39 Rora St
Murupara	Pine Drive Car Park, Pine Dr
Taupo	Firestation, 1 Kaimanawa St
Taupo	Tesla, 1 Kaimanawa St
Gisborne	21 Gladstone Rd
Morere	Hot Pools, 3968 SH2 (25 kWh)
Rangitaiki	Lodge Café, 3281 SH5
Turangi	1 Pihanga Rd
New Plymouth	66 Courtenay St
Opunake	Business Centre, 23 Napier St
Wairoa	75 Queen St
Putorino	5466 State Highway 2
National Park	Four Square, 4354 SH4
Ohakune	New World, 30 Ayr St
Taihape	New World, 12 Huia St
Te Haroto	Mc Vicar Rd, 4237 SH5
Waiouru	Cnr SH1 & Hassett Dr
Hawera	Pak'nSave, 54 Princes St
Napier	206 Dickens St
Hastings	100 Queen St W
Mangaweka	Papa Cliff Café, 2 Koraenui St
Whanganui	Pak'nSave, 167 Glasgow St
Waipukurau	34 Russell St
Dannevirke	24B Gordon St
Woodville	i-SITE, 43 Vogel St
Palmerston Nth	i-SITE, 126 The Square
Palmerston Nth	Tesla, 365 Ferguson St
Levin	New World, 21 Bath St
Otaki	New World, 155-163 Main Hwy
Paraparaumu	Kapiti Pak'nSave, 132 Rimu Rd
Raumati	15 Raumati Rd, Paraparaumu
Paekakariki	7D Wellington Rd Paekakariki
Masterton	Queen Elizabeth Park, 3 Dixon St
Porirua	2 Serlby Pl
Featherston	SuperValue , 42 Fitzherbert St
Upper Hutt	24 Queen St
Lower Hutt	Dowse Art Museum, 1 Stevens Gr
Wellington	Grey St Parking
Petone	Z Station, 60 Hutt Rd
Te Aro	Z Station, 174 Vivian St
Te Aro	Barnett St Carpark, 11 Barnett St
Te Aro	Inglewood Parking, 68 Inglewood Pl

Fast / Super Charger Locations – South Island

Takaka	16 Willow St
Havelock	Four Square, 68 Main Rd
Motueka	New World, 271 High St
Karamea	Four Square, 103 Bridge St
Nelson	i-SITE, 81 Trafalgar St
Nelson	New World, 73 Vanguard St
Richmond	Library, 11 Mcglashen Ave
Spring Creek	2226 SH1, Blenheim 7202
Blenheim	Pak'nSave, Springlands
Ward	Flaxbourne Café, 7326 SH 1
Westport	New World, 244 Palmerston St
Reefton	Four Square (25 kWh) 47 Broadway
Greymouth	13 Tarapuhi Street
Kaikoura	51 West End
Kaikoura	New World, 124 Beach Road
Hokitika	New World, 116 Revell St
Culverden	27A Mountain View Rd
Amberley	Countdown, 123 Carters Rd
Rangiora	Pak'nSave, 2 Southbrook Rd,
Northwood	New World, 2 Mounter Ave
Harewood	Raeward Fresh, 800 Harewood Rd
Addington	Z Station, 40 Moorhouse Ave
Halswell	New World, 9 Nicholls Rd
Christchurch	Tesla, The George Hotel, 50 Park Tce
Rolleston	New World, 90 Rolleston Dr
Lincoln	New World, 77 Gerald St
Little River	4235A Christchurch Akaroa Rd
Rakaia	41 Bridge St
Ashburton	109 West St
Tekapo	Lake Tekapo Tavern, SH8
Fairlie	Opp. 53 Main St
Geraldine	Cox St Carpark, 14 Geraldine-Fairlie Hwy
Temuka	New World, 185 King St
Twizel	Events Ctr, 61 McKenzie Dr
Timaru	26A North St
Omarama	2 Sutherland Rd
Omarama	Tesla, Hot Tubs, 29 Omarama Ave
Kurow	Wynyard St
Wanaka	42 Ardmore St
Queenstown	Tesla, Remarkables Park Town
Athol St	9 Athol St, Queenstown
Frankton	Pak'nSave, 302 Hawthorn Dr
Cromwell	i-SITE, 2 The Mall
Waimate	125 Queen Street
Oamaru	Eden St Carpark, 3 Eden St
Ranfurly	31 Charlemont Street
Alexandra	9 Thompson Street
Hampden	33 Lincoln St
Nth Dunedin	University of Otago, 71 St David St
Dunedin	Filleul St Carpark, 193 Moray Pl
Mosgiel	New World, 10 Hartstonge Ave
Milton	Four Square, 207 Union St
Roxborough	22 Jedburgh St
Lumsden	Four Square, 14 Diana St
Lawrence	Four Square, 19 Ross Pl
Winton	New World, 293 Great North Rd
Gore	New World, 8 Irk St
Balclutha	23 Charlotte St
Invercargill	116 Esk St