

EVs & BEYOND

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MARCH 2021



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EV INTEREST INCREASED UNDER COVID



By **Geoff Dobson,**
Editor

OK – so we survived another lockdown (so far) in Auckland with lower grade restrictions applying to the rest of the country.

It forced the postponement of quite a few events – including our own EVs and Beyond Conference on Waiheke Island initially planned for March 1 and 2.

Others were cancelled, like the Electric Island Waiheke events which are now scheduled for February 19 (EV Pride Rally) and February 20 (EV Expo) next year.

But if anything positive is to come from the COVID crisis, it's the massive swing in interest here and globally to electric mobility on land, water and in the air.

People noticed the cleaner air around cities when traffic stopped, and fears we may not be acting quickly enough to mitigate climate change may also have prompted more to consider zero emission travel - encouraging some cities to ban fossil fuel transport, especially in central areas.

Overseas, the EV market has recovered quickly and automotive manufacturers are churning them out as fast as they can go.

Hyundai New Zealand reports interest has surged following the global launch of its Ioniq 5, due out here in the second half of this year with pre-orders already exceeding expectations.

The EV world is changing rapidly, new developments surfacing on almost a daily basis.

While EVs are cheaper to run than internal combustion engine (ICE) vehicles, one of the big hurdles is upfront EV cost – expected to drop within a few years as battery and other material costs fall drastically, while increasing automation means factories can spit them out faster and cheaper.

Various predictions put the “tipping point” where EVs gain greater public favour at anywhere between one and five years from now.

Statistics here and in Australia already point to EVs' growing popularity – in spite of some reticence by governments in both countries to more actively stimulate EV uptake.

In fact, ICE sales are falling in many areas and, with a northern California city proposing a ban on new gas

stations and asking existing ones to install EV chargers, the stage is set for even more EV fever.

That's providing there's enough EV supply to meet global demand, although manufacturers are stepping up production.

Volvo Cars plans to sell only electric (and online) by 2030, Jaguar Land Rover is doing similar (Jaguar aims for all-electric by 2025 and electric models of the entire JLR line-up will be available by 2030), Ford wants to have its European passenger vehicle line-up all-electric by 2030 and all Ford cars with electric or hybrid models by mid-2026, while General Motors is investing heavily in electric and autonomous vehicles (AVs) during the next five years.

Not forgetting Tesla, of course, already producing EVs at an increasing pace in China, the US and shortly from Germany.

It's not just cars either. Trucks are turning to alternative fuels, electric ferries are now being produced with bigger ocean-going vessels expected to use electric and hydrogen propulsion, and electric aircraft are also coming in greater diversity.

Other forms of e-mobility like electric bikes, e-scooters and such gained greater traction during the COVID pandemic, with many cities now catering more for those. You'll see far more on AVs such as driverless shuttles, pilotless air taxis and more during the next few years too.

EVs are also being snapped up for car share, ride-hailing services, last mile deliveries and the like.

That all indicates the rEVolution is already here.

Can't wait to see what this year brings!

Geoff Dobson
EDITOR

KOREAN BRANDS LOOK TO EV FUTURE

Hundai New Zealand is already experiencing strong interest in its new Ioniq 5, a segment-bending car that brings a range of new technology both to the brand as well as 'mainstream' electric vehicles here.

How is it segment bending? While what you are looking at may look like a hatchback, its styling even hints to the legendary Hyundai Pony hatchback of the 1970s, it is actually an SUV. Size wise it is as long as a Tucson, but with a wheelbase longer than a Pallasade.

EVs and Beyond was the only local outlet online for the International media reveal of the car, and the vehicle's size was a key metric Hyundai

executives attempted to explain. It gives the car massive internal proportions – this is a premium large SUV inside.

The platform underneath is a new all-electric setup dubbed electric-global modular platform (E-GMP), with Ioniq 5 customers able to select from two battery pack options – 58kWh or 72.6kWh – and two electric motor layouts, either with a rear motor only or with both front and rear motors.

The top model gets a combined output of 225kW and 605Nm of torque, able to reach 100 km/h in 5.2 seconds.

The platform is also set to spawn an Ioniq 6 sedan and Ioniq 7 three-row SUV. Kia has also

launched its own model on the platform, the EV6.

The Ioniq 5's top range is 480km (WLTP) in the two-wheel drive (2WD) and 72.6kWh battery option.

The battery is an 800 Volt unit, which means it will be capable of extremely high charging rates. Hyundai claims on a 350kW charger, the Ioniq 5 can charge from 10% to 80% in 18 minutes, only needing five minutes charging to get 100km of range.

Hyundai says a unique and patented inverter allows the 800 Volt battery to charge efficiently on 400 Volt infrastructure. That means the car will play well on all NZ's current DC chargers.

Continued on following page...

New E & X Series Smart Charging Station

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...Continued from previous page

It also has an innovative vehicle-to-load (V2L) function, allowing customers to freely use or charge any electric devices, such as electric bicycles, scooters or camping equipment, serving as a charger on wheels. Yes, this is a flash way of saying the car has a household power outlet, but in fairness Hyundai has turned the system up to a level rarely seen before with 3.6kW on offer and a port on the exterior of the vehicle.

Reflecting Hyundai's sustainability commitment, the Ioniq 5's interior touchpoints – seats, headliner, door trim, floor and armrest – use eco-friendly, sustainably sourced materials, such as recycled PET bottles, plant-based (bio PET) yarns and natural wool yarns, eco-processed leather with plant-based extracts, and bio paint with plant extracts.

Advanced connectivity and driver assistance features boost the in-car experience while ensuring safety.

"It is truly the first electric vehicle to provide a new experience with its innovative use of interior space and advanced technologies," Hyundai global chief marketing officer Thomas Schemera says.

The Ioniq 5 has the next level of Hyundai SmartSense advanced driver assistance systems and is the first Hyundai model to offer highway driving assist 2 (HDA 2).

Its wide, configurable, dual cockpit features a 12-inch, full-touch infotainment screen and hoodless 12-inch digital gauge cluster that can be customised to meet customers' needs, along with an augmented reality head-up display, essentially turning the windshield into a display screen.



A moveable centre console complements the simple centre fascia with the gear selector located behind the steering wheel. The sliding console allows passengers to not only enjoy more flexibility, but also freely enter and exit the cabin on either side when parked in a narrow spot. Second-row passengers also can enjoy centre console features, such as cup holders, a 15W fast wireless phone charger and USB ports.

Simple voice commands can control cabin air-conditioning, radio, hatch opening/closing, heated steering wheel, heated/cooled seats and other functions.

The Ioniq 5 can tow a trailer up to 1600kg.

ONLINE ORDERS OPEN

Hyundai New Zealand has already confirmed the Ioniq 5 will arrive here later this year, though has yet to confirm pricing. It will be

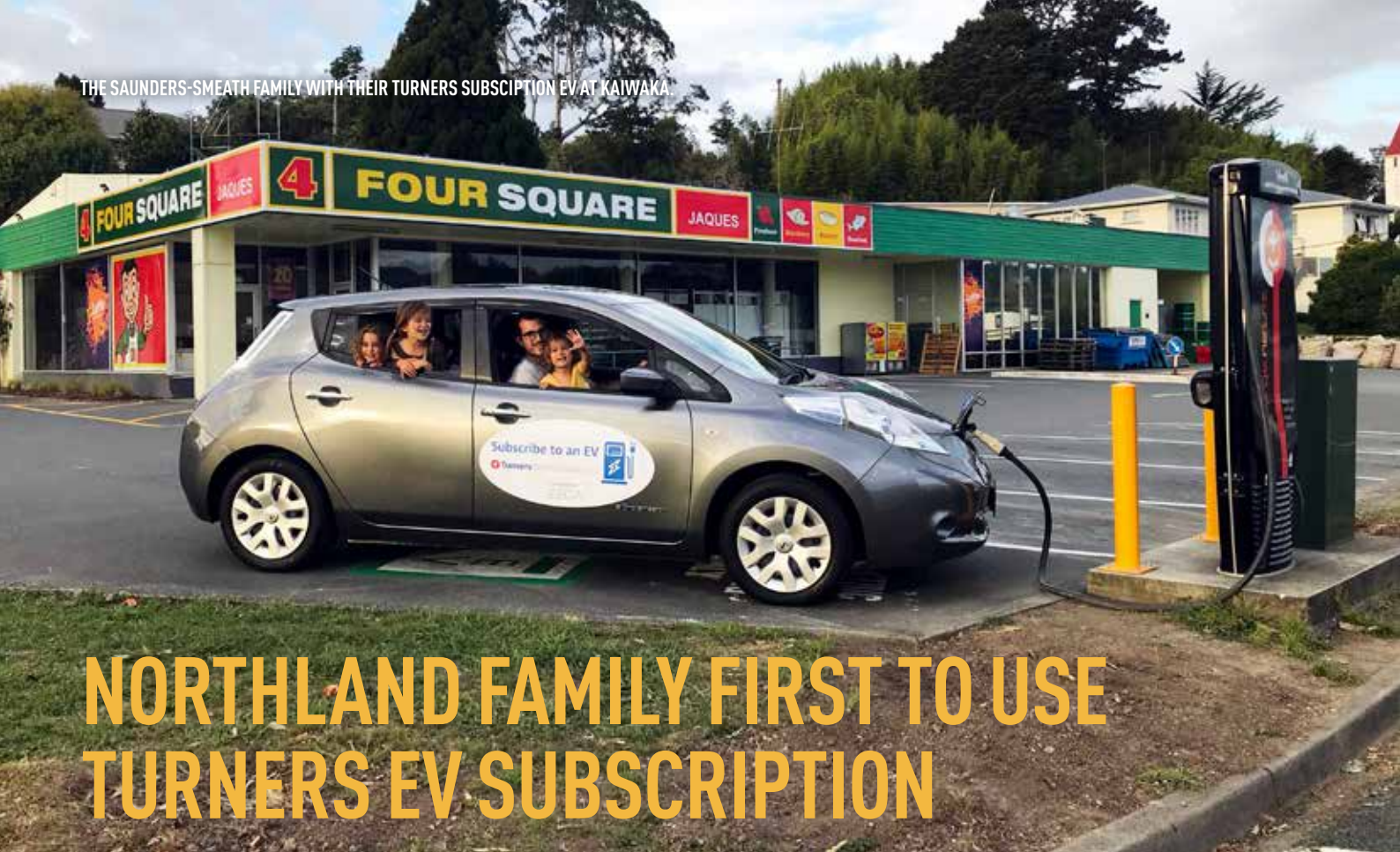
taking 58kW single motor and 72.6kW with single or dual motor options.

"We are really pleased by the initial interest in the Ioniq 5," Hyundai New Zealand general manager Andy Sinclair says.

"Our team and dealer network are really excited about bringing this EV into New Zealand, and it seems many other EV enthusiasts are too. In a matter of days we've had a large volume of people register their interest to hear more about this vehicle, as well as pre-orders."

A \$500 deposit is required which is fully refundable should the customer not wish to proceed once the New Zealand specification and price for the Ioniq 5 is released closer to the local launch.





NORTHLAND FAMILY FIRST TO USE TURNERS EV SUBSCRIPTION

The Saunders-Smeath family from Northland are amongst the first in New Zealand to make use of an innovative new EV subscription service available from Turners.

The initiative, co-funded through the Energy Efficiency and Conservation Authority (EECA) administered low emission vehicles contestable fund, is a new programme designed to accelerate the EV uptake in New Zealand and has seen 10 Nissan Leaf EVs added to the subscription fleet.

And it's one of these vehicles which the family will be driving as they undertake a series of sustainable road trips around the Far North.

"We're huge fans of new technologies and seized the opportunity to experience an EV, as we want to dispel myths and misconceptions about the feasibility of EV use," says **Chris Saunders**.

"We have three young kids, so between them and their car seats plus travelling luggage we'll have the Nissan Leaf fully loaded.

"It's going to be intriguing to plot its performance over the course of the month and find out what the experience is like of travelling with an electric vehicle."

During their journey, the Saunders-Smeaths will be factoring stops at recharging stations as well as visiting

points of interest.

"We will need to do some planning to determine top-up points, but it's a small price to pay in return for knowing you have zero tailpipe emissions and are helping the environment. We want to prove to our fellow New Zealanders that EV's really are the way of the future," Saunders says.

"In addition to the EV challenge we're also promoting our business start-up Te Kaupapa, an online marketplace to discover the best deals, events and activities anywhere in the country - especially relevant during this time of increased domestic tourism due to the COVID pandemic."

Turners Subscription general manager **Jeremy Rooke** says there has been significant interest in the new scheme, especially following the Government's recent Clean Car Import Standard announcement.

"There is a real fascination with electric vehicles, now more so than ever before.

"This co-funding opportunity with EECA presents a chance for people to live with an electric vehicle for themselves, without actually purchasing it outright," Rooke says.

"It's the ultimate 'try before you buy' experience."

The Turners Subscription programme is available to motorists with a full NZ driver's

licence, with a minimum commitment of 30 days. Users of the service pay a fee every 15 days.

"There are many advantages associated with the programme, for example insurance, service and registration costs are all covered, but an additional key consideration is the ability to swap between different vehicles during the course of each month," Rooke says.

"This means that should you need to swap out of an EV and into a different vehicle, then you simply book the change online and the replacement car can be arranged - it's as simple as that.

"Such levels of flexibility and convenience have huge appeal and, as the Saunders-Smeath family is going to demonstrate, this is the perfect opportunity to try an EV as part of the Turners Subscription service."

The family will be posting updates from their experience on their Instagram account and further reports will also be available during the course of the roadtrip.

Contact **Jeremy Rooke** via jeremy.rooke@turners.co.nz, phone 027 233 1293, or visit www.turnerssubscription.co.nz for more information.

Check out Te Kaupapa's website and instagram <https://tekaupapa.com/learnmore/> and

<https://www.instagram.com/tekaupapa/> for updates.

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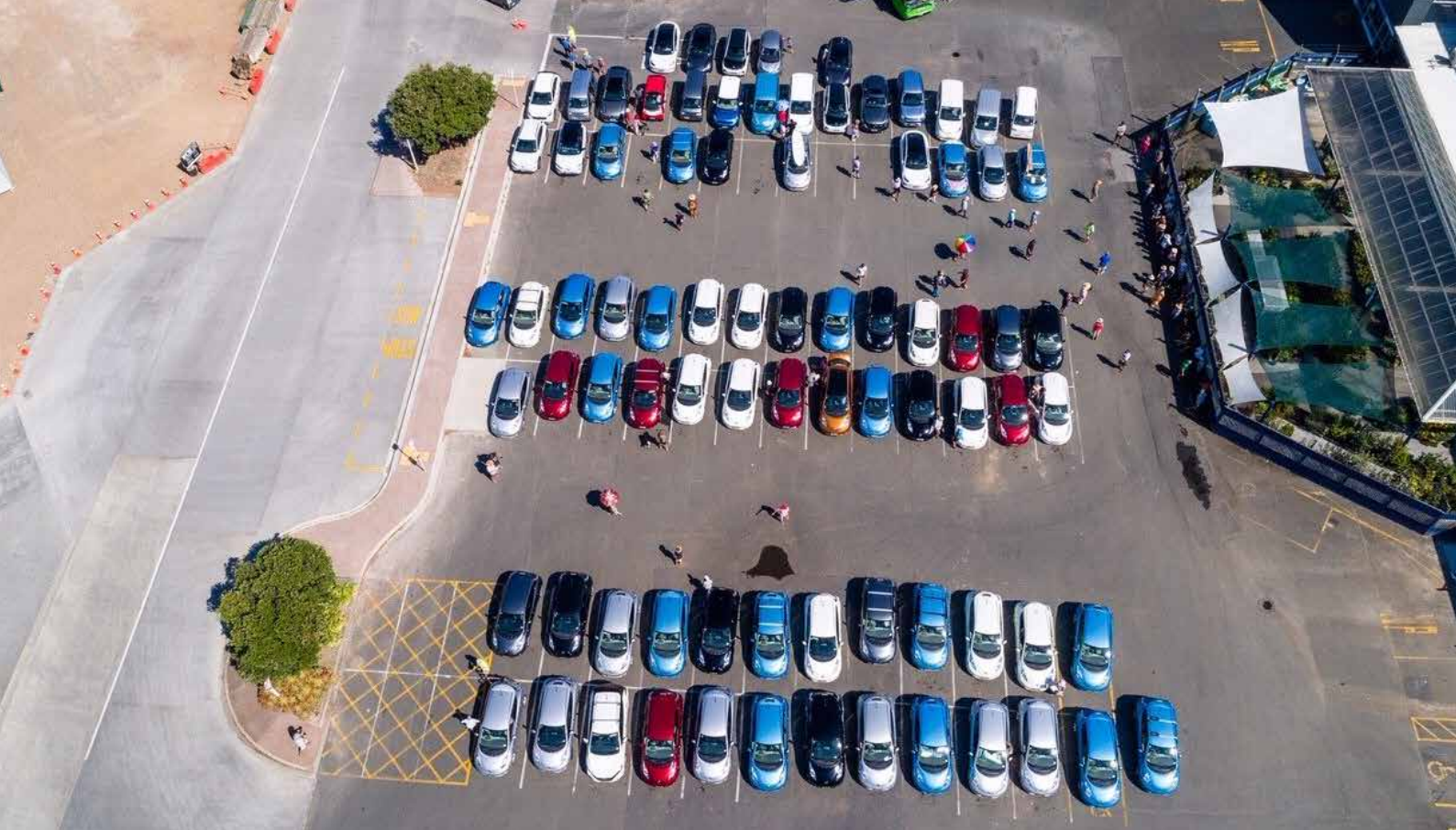
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COVID-DELAYED CONFERENCE STILL PACKS PUNCH

EVs & Beyond's *The Event* conference, that was set to take place at the start of March, is now scheduled for April 12 and 13.

The delay was triggered by Auckland's COVID-19 lockdown, but with that issue - knock on wood - now clear, the event is set to go ahead.

The conference will again be held on 'Electric Island' Waiheke, with almost the same series of knowledgeable and influential speakers.

"We are pleased to get the show on the road again after our enforced delay," conference manager **Deborah Baxter** says.

"It is as good, if not better, than the originally planned event, with virtually all the original speakers on board."

"The positive to the delay is it means more people with an interest in the electric world can register and make the EV event of the year."

Key speakers include Climate Change Commission chair **Rod Carr**, UBCO NZ chief executive **Timothy Allan**, Auckland Transport bus fleet transition specialist **Steve Zahorodny**, ChargeNet NZ chief executive and co-founder **Steve West**, ElectricAir founder **Gary Freedman**, consultant **Liz Yeaman**, **Aaron Gillon** of YHI and former MG New Zealand country manager **Anthony MacLean**.

The conference also covers the heavy vehicle trade, with Alsco's **Gavin Smith** accounting for the firm's real world experience operating a heavy truck.

Andrew Clennett of Hiringa Energy talks

about hydrogen production and distribution, while **Gavin Young** from Hyundai New Zealand outlines prospects for hydrogen power.

The first day wraps up with a networking dinner with Kiwi rally driver **Hayden Paddon** the guest speaker.

Visit www.evsandbeyond.co.nz/tickets to grab your conference spot or contact Deborah on deborah@automediagroup.co.nz or phone 027 530 5016 for more information.



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DAY ONE

8.30am	Registration and Coffee
9.00am	Welcome to Waiheke Cath Handley , Chair of Waiheke Local Board – which has adopted the Electric Island Waiheke Trust’s goals of an island free of the pollution, noise and costs of petrol and diesel engines by 2030
9.15am	Climate Change – The Number One push behind EVS Keynote speaker: What should be done, at what cost, and how long will it take: Dr Rod Carr , chair of the Climate Change Commission Q&A moderator Richard Edwards , managing editor of Auto Media Group Ltd – publisher of EVs and Beyond
10.00am	MORNING TEA
10.30am	EVs on the water Jeremy Ward , managing director of East by West Ferries on the launch of the new electric ferry in Wellington Liz Yeaman , managing director of Retyna/Consultant: Renewable energy for transport – Charging the new electric ferry Michael Eaglen , co-founder and chief executive EV Maritime – speaking on the development of fully-electric ferry services in Auckland’s Hauraki Gulf Q&A moderator Richard Edwards , managing editor of Auto Media Group Ltd – publisher of EVs and Beyond
11.45am	EVs on the land <i>What impact could the Clean Car Standard have on the New Zealand vehicle fleet and sales?</i> Phill Haynes , CEO of Juno and Jupiter, consultant to the auto industry, formerly with Deloitte, Honda and Holden.
12.15pm	LUNCH
1.15pm	EVs on the land <i>Where will NZ source its used EVs?</i> Hayden Johnston of GVI Electric, Penrose and board member of VIA <i>Where will NZ source new EVs?</i> Anthony MacLean , principal of BOOST Auto consultants, responsible for launching MG, the latest brand of EVs into NZ Panel discussion, moderated by Richard Edwards <i>Where will supplies new and used, right-hand drive EVs come from in the immediate future/next 10 years</i>
2.15pm	The role of heavy transport Gavin Smith , business and product development manager, AlSCO NZ, discusses the company’s experience with having actual heavy electric trucks out on the open road – the positives, the negatives and what they have learned. – Via Zoom Kathy Schluter – Group sales and customer experience manager from Fuso New Zealand will discuss electric truck integration into transport operations.
3pm	AFTERNOON TEA
3.30pm	The role of heavy transport Steve Zahorodny , Bus Fleet Transition Specialist Bus Services – Auckland Transport - will be presenting their Low Emission Bus Roadmap focused on “Accelerating Transition to Zero Emission Buses”
4pm	Does Hydrogen have a part to play? Hydrogen hits the road - Hydrogen power for transport in New Zealand is moving beyond theoretical and is ready to play its part in the decarbonisation of the fleet. Andrew Clennett of Hinga energy explains how. Hydrogen is now Hyundai New Zealand’s Gavin Young details the company’s experience with running a small fleet of hydrogen fuel cell vehicles on New Zealand roads, and what we can expect to see from them in the form of trucks and buses in the future. Q&A moderator Richard Edwards , managing editor of Auto Media Group Ltd – publisher of EVs and Beyond
4.30pm	Rally ace Hayden Paddon delves into the build and performance of his electric-powered Hyundai Kona rally car. He also explains how motorsport is going electric.
5pm	Conference finishes for the day
5.30pm to 9pm	Networking Dinner - with guest speaker Hayden Paddon

8.30am	Registration and Coffee
9am	Charging and Fleets ChargeNet and YHI Aaron Gillon from YHI will discuss knowing your site as well as your fleet, flowing into some pain points we see customers encounter and the importance of the relationship with facilities. He will touch on peak saving battery technology and mention a more detailed session in the afternoon. Establishing an effective workplace charging strategy and utilising shared infrastructure Steve West , ChargeNet CEO and Co-Founder Q&A moderator Richard Edwards , managing editor of Auto Media Group Ltd – publisher of EVs and Beyond
10am	The Unbundling of Transport – hosted by Simon McManus, Executive Officer, ITS NZ Martin McMullan of Mobli explains how electrification eases the path for changing forms of transport and ownership models Kirsten Corson , Co-Founder/Executive Director Zilch – zero emission car sharing -discusses how fleets have reduced their costs and carbon outputs by sharing vehicles, using the advantages of electric vehicles and smart new technology. Connected vehicles/Car subscription – Turners Turners' Jeremy Rooke discusses how the country's largest vendor of used vehicles is adopting a subscription model, and how they can be an entry point for customers to the electric world. Q&A moderator Richard Edwards , managing editor of Auto Media Group Ltd – publisher of EVs and Beyond
10am	MORNING TEA
11.30am	EVs in the Air Gary Freedman , founder of ElectricAir, tells his story of putting the first electric aircraft into New Zealand's skies. What were the challenges and what can we expect from aviation in the future. Via Zoom Q&A moderator Richard Edwards , managing editor of Auto Media Group Ltd – publisher of EVs and Beyond
12pm	EVs - not just cars and trucks EV Tourism Helen Fitt , board member of Intelligent Transport Systems NZ, lecturer at Lincoln University - explains how electric vehicles can be part of the tourism industry. Richard Heaps of PowerTrip explains his app, and how smart software can increase the efficiency of electric vehicles and their journeys.
1pm	LUNCH
2pm	Tim Allan , CEO, UBCO NZ - 'A NZ success story, how a Tauranga company is taking on the EV bike world' Q&A moderator Richard Edwards , managing editor of Auto Media Group Ltd – publisher of EVs and Beyond
2.30pm	Alternative energy options – SOLAR to be announced
3pm	'From the floor' - Richard Edwards leads a discussion amongst all attendees on our 'EV future'
3.30pm	Conference Finish

NOTE: The agenda is subject to change

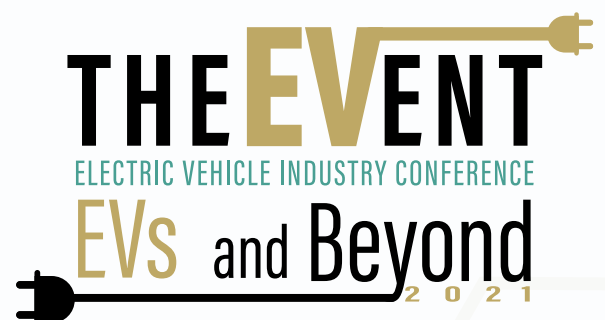
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AUCKLAND TRANSPORT GEARS UP FOR HYDROGEN FUEL CELL BUS FLEET

New Zealand's first hydrogen bus is set to be officially launched at Ports of Auckland on March 30.

Built by Christchurch-based Global Bus Ventures (GBV) for Auckland Transport (AT), the \$1.75 million hydrogen bus will be trialled for two years alongside another three-axle battery electric bus on route 70 from Botany to Britomart by transport operator Howick and Eastern.

The H2 bus will be topped up with green hydrogen at Ports of Auckland's temporary refuelling station, with AT and Hirlinga Energy looking at trialling hydrogen powered bus services using a hydrogen refuelling facility being developed in South Auckland.

Through the development of its Low Emission Bus Roadmap, AT has identified hydrogen as a potential energy storage and fuel for Auckland's future low emission public transport fleet.

AT has been assessing hydrogen fuel cell bus options to support the transition to zero emission buses and is a key partner of the hydrogen demonstration project with Ports of Auckland.

Replacing the supercity's existing diesel buses with both electric and hydrogen fuel cell vehicles is expected to cost between \$150 million and \$200m.

Auckland mayor **Phil Goff** says with the right

infrastructure, "hydrogen has the potential to power our buses and other parts of our vehicle fleet, which will help reduce emissions and lower air pollution in Auckland".

AT chief executive **Shane Ellison** says there is a great benefit in exploring with Hirlinga potential hydrogen refuelling solutions for low emission bus and ferry services using green hydrogen fuel.

"This would support our existing work with Ports of Auckland," Ellison says.

"Fuel cell buses meet the heavy daily demands of public transport. Hydrogen-powered buses and ferries would overcome the challenges of large and heavy battery packs on bigger buses and ferries.

"Hydrogen fuel offers far greater flexibility for public transport operators and will complement battery electric services," he says.

Hirlinga Energy chief executive **Andrew Clennett** says his company is thrilled to be working with AT on the project.

"We often see people expecting a two-horse race between hydrogen and battery electric with only one winner. In reality it's going to need a mix of both technologies, with each playing to its strength.

"That's what we are seeing internationally and analysis for the New Zealand fleets suggests this is going to be the optimal approach,"

Clennett says.

He says hydrogen performs most effectively for the higher use buses that need to stay on the road, providing a service day and night, and covering the most kilometres.

AT says its involvement in purchasing the hydrogen bus is to prove to the market that hydrogen buses can be developed to meet New Zealand's unique operational and design requirements, and to help develop hydrogen as a fuel.

AT will now focus on exploring hydrogen fuel cell bus fleet deployment, with a selected bus operator contracted by AT, under a new bus fleet ownership model incorporating hydrogen supply.

As the bus is also New Zealand built, AT says it has helped support local businesses during a difficult time.

The trial outcome will help operators make informed decisions about which technology should be selected, based on real-world testing.

And AT's transition plan targets a full transition to a zero-emissions bus fleet by 2030.

Further work will include investigating the potential supply of green hydrogen to support future hydrogen ferry services.

EECA ROUND 10 FUNDING APPLICATIONS CLOSE APRIL 14

EV charging, technology and services, and demonstrating light and heavy low emission vehicles are the focus for the newly opened Round 10 of the Government's low emission vehicles contestable fund (LEVCF) administered by the Energy Efficiency and Conservation Authority (EECA).

Applications for the latest round have until Wednesday, April 14, 2021 to submit their proposals to EECA for a share of the \$4.5 million available.

The LEVCF encourages innovation and investment to accelerate the uptake of low emission vehicles through 50% funding for projects, energy and resources minister **Megan Woods** says in opening the 10th round.

She says the fund has committed \$29.4m in government funding to 180 projects, matched by more than \$62m in applicant funding.



"Over nine rounds, the investment focus of the fund has evolved, from growing awareness and uptake of electric vehicles to expanding our public charging network and investing in New Zealand-first, innovative technology," Woods says.

"Through the fund, we've helped ensure Kiwis can charge their electric vehicles the length of the country and invested in work to develop

battery repurposing and recycling.

"We've upskilled the industry, and organisations from small community groups to nationwide transport companies have shown there is a low-emission vehicle solution for just about every need."

Woods says there's still considerable scope for previous successful projects to be replicated, but in new sectors and applications.

"We also need to make the charging network denser, by filling gaps in the network and making more facilities available at key

locations," she says.

"I'm looking forward to seeing more organisations embrace low-emission vehicles and innovative transport solutions for their sectors."

Email LEVFund@eeeca.govt.nz for more information about the fund.

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LEGO-STYLE EV BATTERY SWAP IN UNDER 10 MINUTES

An autonomous EV battery swapping station that removes depleted battery modules and replaces them with fully charged ones is being rolled out in California and is expected to go global.

It's been developed over seven years by Ample and works with any EV, using small, robotic machines to swap out empty modular batteries from under the belly of the car and replacing them with fully charged batteries.

"Our batteries are made out of Lego-like modules that can accommodate any vehicle regardless of size or model," Ample co-founders **Khaled Hassounah** (chief executive) and **John de Souza** (president) say.

The depleted battery modules are then placed on shelves where they are recharged.

Ample's stations require no construction and can be assembled wherever two parking spots are available.

This makes them a convenient solution for a diversity of locations including grocery stores, gas stations and highway rest stops, Ample says.

Ample uses Modular Battery Swapping to deliver a full charge (100%) in under 10 minutes – about three to 10 times faster than most charging methods.

It also dramatically reduces the cost and time it takes to install EV infrastructure, Hassounah and de Souza say.

"Our system is designed for rapid deployment, making it possible to equip an entire metropolitan area with a ubiquitous network in a matter of weeks, while delivering energy at a cost as cheap as gasoline."

Ample has the additional benefit of being able to capture wind and solar power when it's available, and then dispense that energy to EVs when needed.

"When we set out to work on this challenge, it was clear to us that ubiquitous electric car adoption is hindered by the shortcomings of charging options available today," the pair say.

"Urban areas and fleets have had slow uptake of electric vehicles due to slow charging speeds, high deployment cost and long construction time.

"What's more, it is not possible today to profitably build and operate charging infrastructure without continued access to government subsidies.

"Additionally, long charge times put electric vehicles at a significant disadvantage to



JOHN DE SOUZA, LEFT, AND KHALED HASSOUNAH WITH AN AMPLE EV BATTERY SWAP STATION.



AN EV PULLS INTO THE AMPLE STATION AND HAS ITS BATTERIES REPLACED WITH FULLY CHARGED ONES IN UNDER 10 MINUTES



THE EV IS LIFTED IN THE AMPLE STATION AND THE BATTERIES SWAPPED AUTONOMOUSLY.

gasoline for many use cases, including high-utilisation fleets, drivers without access to overnight charging and long-range driving."

For economies like the US, European Union and Japan, transportation is the single largest source of greenhouse gas emissions.

Ample's co-founders say there's no clear path to moving EVs to renewable energy sources without heavy investment in grid infrastructure to store renewable energy and that its approach addresses these challenges, enabling a seamless transition to electric mobility.

"We are starting with electrifying fleets which will accelerate deployment of a wide-scale network that can support consumers too," they say.

"Ample is currently being deployed regionally in the (San Francisco) Bay Area, where we are actively working with a wide range of ride sharing, last mile delivery and municipal fleet partners.

"Our technology allows them to electrify their fleets without losing any of the economic

benefits or convenience of gasoline. In addition, we are actively working with a number of the world's largest automakers to enable mass deployment in the US, Europe and Asia.

"We invite more fleets and automakers to collaborate with us to get more electric vehicles on the road," say Hassounah and de Souza, adding they want to see a billion EVs driving.

Ample raised more than US\$70 million to fund the project.

The company is a partner in Uber's electrification strategy, which plans to electrify 100% of rides in Canada, the US, and Europe by 2030.

Fleets and ride-sharing/food delivery drivers are coming in to refuel now by swapping out their batteries daily as a new way for them to stay on the road and do it in a more environmentally sound way, Ample says.

It was co-founded in 2014 by Hassounah and de Souza, the latter selling his first start-up to Microsoft.

MAHU CITY EXPRESS LAUNCHES NZ'S FIRST EV COACH



Luxury commuter bus service Mahu City Express has launched New Zealand's first EV coach for daily operations between Warkworth and Auckland.

The vehicle was unveiled at a small gathering at Matakana's Sculptureum on February 27 along with transport minister Michael Wood and a blessing by local Kiwi.

The pure electric Yutong ICE12 was supplied in partnership with New Zealand-based JW Group and was 50% co-funded with \$352,500 through the Energy Efficiency and Conservation Authority (EECA).

The coach features a 281KWh battery with a range of around 300km. As part of operations, it will do a round trip of around 150km each day and can seat up to 40 passengers.

EECA funding will also go towards a 120kW heavy EV charger to service the coach.

Mahu City Express was started by **Julian Ostling** in 2015 after two years of research to get certified and get permission to use the Northern Busway.

After moving to Warkworth from London, he realised there was no public transport for the area and figured there must be demand for such a service.

Operations began with a 15-seater bus and



soon grew to two 37-seater luxury coaches with leather seats, carpets and USB ports – and now the EV coach joins the fleet.

The company also caters for private groups especially for those wanting to visit the Matakana wine region.

Along with weddings, it has also developed a niche for running event buses to large concerts and sports fixtures in Auckland.

Ostling says he is excited to be the first in the country to be running the EV coach and he expects to add more electric vehicles later on.

"We always wanted to be ahead of the game and offer passengers something new.

"We're also totally committed to doing all we can to preserve and protect the environment on which we all depend, and so this decision



was a no-brainer for us, even though it is not an easy implementation," he says.

Transport minister **Michael Wood** says the Government is supporting the transition of New Zealand's bus fleet from diesel to electric but it also requires people in the industry to take leadership.

"To have examples like [Mahu City Express] in this community, where a relatively small operator has taken the lead, has worked with EECA and has procured an electric vehicle that provides a great customer experience is incredibly encouraging.

"I think it's going to be good for their business and I'm hoping to see more of it," Wood says.



REPORT CALLS FOR LAW REFORM ON AUTONOMOUS VEHICLES

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

The white paper, titled *The Driverless Revolution: What Next?*, written by **Mitchell Gingrich** and **Steven Moe**, looks at what is changing in the area of autonomous vehicles and asks what can be done to prepare for that.

It concludes with eight key recommendations in the area of regulatory compliance and suggests New Zealand has the chance to be "world-leading" in its adoption of AVs and show other countries the way forward.

"With change, there is always opportunity. In our view, this opportunity is to offer New Zealand a way to smooth out the legal bumps in the road for AVs and deliver a regulatory framework, which not only is coherent but also technologically savvy – combining law and AV technology.

"Whether delivering people or products, AVs must be safe for all users of public spaces," it says.

Recommendations include:

- A full-fledged permitting process allowing companies to test AVs on the public roads in a limited manner, such as a geo-fenced

area.

- Upgrading New Zealand motor vehicle standards so that AVs are in compliance. For example, regulations permitting a vehicle without a steering wheel or pedals for a human driver. These upgraded standards should also reflect the adoption of the Society of Automotive Engineers (SAE) taxonomy for levels of vehicle autonomy.
- Establishing an AV agency under the authority of the Ministry of Transport/NZTA 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, initially, and then full-fledged operations.
- Address privacy and carefully navigate the concerns of AV users and all users of the public roads as tremendous amounts of 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



MITCHELL GINGRICH

only by fleet operators, public road testing standards, software standards, vehicle and computer hardware maintenance standards, testing simulation standards, reporting requirements for AV owner/operators, IT security standards, privacy standards, post-incident data sharing requirements, initial registration and on-going certification process for AV safety drivers, initial registration and on-going certification process for those remotely observing and operating the AVs.

Gingrich, who now lives in Christchurch, previously worked for Uber's Advanced

Continued on following page...



Technologies Group (ATG) as a test pilot in the AV programme from 2017 to 2018.

The work required him 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 came to an end when Elaine Herzberg became the first pedestrian to be killed by a self-driving car that was taking part in the Arizona-based programme.

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

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

The NTSB said that the immediate cause of the collision 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.

"Safety starts at the top," said NTSB chairman Robert Sumwalt. "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."

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 accident also serves as a reminder for how important it is to get the laws and regulatory compliance in check before we have fleets of AVs on our local roads.

He concedes that the Uber ATG programme was "basically a science experiment on public roads" and this is the challenge that needs to be faced as the technology begins to roll 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 2018, 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 now launched a consulting business with the aim of assisting the Government and industry in developing policies relating to the testing and use of autonomous vehicles in public areas.

Co-author **Steven Moe** is also based in Christchurch and is a partner at Parry Field Lawyers and host of the *theseeds.nz* podcast. He works across the country to help 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 NZ Transport Agency to "understand the potential new road safety risks AVs could introduce to the transport system (such as hardware and software failures,

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malicious hacking, and increased risk-taking)."

"The ministry also seeks to understand how new technologies contribute to transport outcomes. This includes considering how new technologies can influence travel choices, impact congestion, reduce the road toll, improve access, reduce emissions, and improve the liveability of our cities."

"The ministry needs to understand what an effective regulatory framework looks like, including; the level of risk tolerance we are willing to accept, the balance of flexibility in the system versus certainty for users, and the expertise, resources, and systems needed to administer it.

"New Zealand's current regulatory framework for vehicles is based on prescriptive vehicle standards and detailed driver licensing requirements. Vehicle standards have been developed gradually over several decades, and are largely based on the assumption that vehicles will look and operate in similar ways as they have done in the past.

"Driver licensing also becomes less important [and manufacturer licensing more important] as vehicles become highly and fully automated. Both of these aspects are challenged by new



vehicle technologies, which place a greater reliance on software (and software updates), and place fewer duties and demands on the driver," the transport ministry says.

"How AVs are deployed into the New Zealand market will also influence the level of regulatory change required. If AVs are owned by companies who deploy them as fleets of self-driving vehicles, then regulation could potentially be simpler, as it will follow many of the existing legislative requirements business

owners already have.

"If AVs are deployed and sold to individuals for private use, there may be the need to revise existing legislation, especially rules around liability. Nevertheless, there will still be a need to review and assess existing legislation with the new requirements AVs present, and to incorporate new legislation to address risks not covered in existing legislation," it says.

POLESTAR 2 COMING TO NEW ZEALAND

Polestar will launch its all-electric Polestar 2 in the Australian and New Zealand markets, as well as South Korea, Singapore, and Hong Kong.

It has established Polestar Automotive Australia, appointing former Volvo Car Australia executive **Samantha Johnson** as its new managing director.

Polestar says other markets will likely be operated on an importer basis with local partners yet to be confirmed in New Zealand, Singapore and Hong Kong.

Preparations in these markets are at different stages as the brand organises market launches and eventually the opening of online sales.

Specific dates and details for each market will be published locally closer to market launching and will include model specification and product pricing, Polestar says.

Polestar's new China and Asia Pacific regions head **Nathan Forshaw** say specific roll-out timing is at an advanced planning stage and the recruitment of key individuals has begun.

"While we are growing rapidly, we are ensuring both our organisation and processes ensure a consistent and truly Polestar experience for



our customers, wherever they are based."

"The brand is gathering real momentum, and it is great to be expanding with Polestar 2 beyond our initial global markets in China, North America and Europe," Polestar chief executive **Thomas Ingenlath** says.

Polestar produces the Polestar 1 – a low-volume electric performance hybrid GT with 124km electric range and a carbon fibre body, while the Polestar 2 electric performance fastback is the company's first fully electric,

high volume car.

The Polestar 2 launched in 2020 with 470km range and an all-wheel drive electric powertrain that produces 300kW power and 660Nm torque.

The Polestar 3 electric performance SUV will join the portfolio later, as well as the Precept – a design study vehicle released in 2020 slated for future production.

GOVERNMENTS' CALL WILL DEFINE EV FUTURE IN NZ AND AUSTRALIA

The transportation industry is being driven by EVs.

Although the global-scale adoption is still miles away, the journey has already begun and a few companies have successfully launched electric buses, trucks, motorcycles, and cars.

The global EV market is expected to reach US\$802.81 billion by 2027, growing at a CAGR of 22.6% from 2020 to 2027, according to Allied Market Research.

Stringent government rules regarding vehicle emissions and increased demand for high-performance, fuel efficient, and low emission vehicles are prime reasons for the market growth.

Although the market players had targeted the European end-users, the emergence of new players in the EV game has opened new opportunities for customers in New Zealand and Australia.

NEW ZEALAND TO TAKE FIRM STEPS TO SUPPORT EV ADOPTION

The adoption of EVs for day-to-day transportation could save New Zealand billions in vehicles, fuel, natural resources, and carbon emissions, a recent survey says.

More than 80% of New Zealand's electricity is generated by hydro dams, wind, and geothermal. On the other hand, the country imports billions of dollars of crude oil from overseas annually. The adoption of EVs would enable New Zealand to source the vehicle's fuel locally.

Not long ago, the NZ government unveiled a blueprint to phase out petrol-powered cars. This ambitious plan focused on reducing greenhouse gas emissions and addressing climate change.

The blueprint will help set a few actions that are essential for meeting New Zealand's targets, making the switch to EVs a priority.

However, there are a few downsides to switching from fossil fuel.

Hundreds of New Zealanders would lose their jobs in the oil, coal, and gas industries, although the government expects re-employment of these workers and finds the switch to EVs essential to curb climate change.

Such strong governmental support has encouraged several market players to enter the New Zealand market.



EV manufacturers bring their vehicles to New Zealand, Australia, and Ireland

EVs are gaining popularity at a breath-taking pace, especially in Australia and New Zealand.

What's more, the increasing demand for EVs and favourable governmental policies has sent manufacturers a signal that New Zealand especially – and Australia to some extent – are viable markets.

For instance, MG Motor has announced expansion of its business across Europe and would offer only plug-in models in Ireland. However, the company has decided to launch its first ZS EV in New Zealand and Australia. In Australia, the ZS EV would become the most affordable EV in the country, costing A\$43,990 drive-away. In addition, the vehicle in New Zealand would be priced at NZ\$48,990 drive-away.

Apart from MG Motor, Indian ride-sharing company Ola has announced its entry to the New Zealand market, launching an electric two-wheeler range in the country.

Ola stated its EV offering would comply with the New Zealand government's rules and support their goals by offering 64,000 new EVs by 2021 and help the public sector to become carbon neutral by 2025.

The strong governmental support in New Zealand has encouraged several companies to invest in the country's EV market.

Leading automotive companies such as Audi and Volkswagen are expected to launch their new EVs in New Zealand in 2021.

What's more, BMW has already announced intentions to bring its next EV to Australia and New Zealand in the second half of 2021.

FUTURE OF EVS IN NEW ZEALAND AND AUSTRALIA

EVs have been available for a while now.

However, the switch from fossil fuel to electricity is still taking a lot of time. Is the



SWAMINI KULKARNI WORKS AS A CONTENT WRITER AT A REPUTABLE FIRM. SHE IS DEEPLY FASCINATED BY THE IMPACT OF TECHNOLOGY ON HUMAN LIFE, AND LOVES TO TALK ABOUT MEDICAL SCIENCE AND MYTHOLOGY. WHEN SHE IS NOT GLUED TO THE COMPUTER, SHE LOVES TO READ, TRAVEL, AND DAYDREAM ABOUT HER AREAS OF INTEREST. KULKARNI HAS A MEDICAL BACHELOR'S DEGREE FROM PUNE UNIVERSITY.

idea of going fully electrical taken to heart in New Zealand? The short answer is 'no'.

Although a large portion of the population wishes to make the switch, the prospects for EVs are relatively limited.

Moreover, both countries are still behind in offering the required infrastructure.

On the bright side, it is expected that more EV charging points will be set in the coming years. However, the initial cost for it is still a hindrance.

The future of EVs in Australia is somewhat similar. So far, more than 10 companies have agreed to enter the Australian EV market, offering citizens a chance to switch to cleaner modes of transportation. However, the country lacks EV infrastructure.

In the future, the governments of New Zealand and Australia will focus on developing charging stations for EVs while allowing more companies to invest in their EV market.

In fact, the Australian government is on the verge of dumping its old policies that favoured fossil fuel vehicles and introducing new laws that offer a viable opportunity for EVs and therefore, a cleaner future.

The same is expected from the New Zealand government.

Visit <https://www.alliedmarketresearch.com/electric-vehicle-market> to get in-depth insights on latest developments and future trends in the EV industry by 2030.

ID. BUZZ FIRST VW TO GET AUTONOMOUS DRIVING

The electric ID. Buzz will be the first Volkswagen to use driverless technology.

It will mainly be used for “robo-taxi” and “robo-van” services such as car-pooling, ride sharing and deliveries.

“With the confirmation of the (Volkswagen) group’s supervisory board for our autonomous driving R&D program, we are setting the course for the future of mobility,” Volkswagen Commercial Vehicles chief executive **Carsten Intra** says.

“Autonomous, electric driving will make an important contribution to urban mobility and road safety.

The introduction of autonomous systems for traffic use in 2025 is being prepared at Volkswagen Commercial Vehicles (VWCV).

“This year, for the first time, we are conducting field trials in Germany, in which the self-driving system by Argo AI will be used in a version of the future ID. Buzz by Volkswagen Commercial Vehicles,” autonomous driving head **Christian**



Senger says.

“The aim is to develop a ride-hailing and pooling concept similar to what MOIA offers today. In the middle of this decade, our customers will then have the opportunity to be taken to their destination in selected cities with autonomous vehicles.”

As part of their cooperation, Ford Motor Company and VWCV have invested equally in Argo AI, a company specialising in software platforms for autonomous driving.

In addition to the initial investment of US\$1 billion, Volkswagen also brought its subsidiary AID (Autonomous Intelligent Driving) into Argo



AI.

With the budget for autonomous driving now confirmed by the supervisory board, VWCV is taking the next significant step towards the future of autonomous mobility by adding autonomous functions to the ID. Buzz.

VWCV will develop and build special purpose vehicles (SPV), such as robo-taxis and vans.

The VW Group is also investing billions in projects of the Car.Software Organisation that develops, in parallel and independently of Argo AI, assisted and automated driving functions up to level 4 for the private mobility sector of all VW Group brands.

The ID. Buzz has its world premiere next year.

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
 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
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
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.

FIND YOUR NEW EVS HERE!

NEW EV CAR TYPES				
MAKE	MODEL	TYPE	PRICING RRP ^{est.}	APPROX RANGE kms
Audi	e-tron 50	BEV	\$134,900	328 km
	e-tron 55	BEV	\$148,500	417 km
	e-tron advanced	BEV	\$157,000	417 km
	e-tron Sportback	BEV	\$169,900	446 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
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
Volkswagen	e-Golf	BEV	\$69,490	220 km
	A3 Sportback e-tron	PHEV	\$71,500	45 km + 600 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
Porsche	S500 e	PHEV	\$255,000	30 km + 700 km
	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

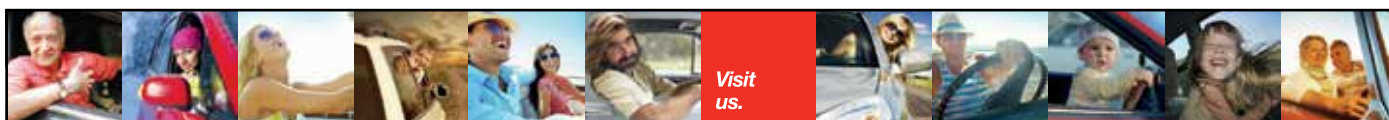
06 759 8070 | hyundai@energymotors.co.nz
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USED EV CAR TYPES				
MAKE	MODEL	TYPE	PRICING RRP EST.	APPROX RANGE KMS
BMW	i3 - 22 kWh	BEV	\$33k - \$45k	120 km
	i3 - 33 kWh	BEV	\$52k - \$86k	200 km
Hyundai	Ioniq	BEV	\$47k - \$55k	220 km
	Ioniq Elite	BEV	\$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
Auckland City Electric Vehicles 0800 248 9387 www.acev.co.nz	Auckland
Volt Vehicles 0800 PH VOLY 022 480 0722 david@voltvehicles.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
Harwood Cars 027 492 2218 www.harwoodcars.com	Auckland
EV City 03 972 5505 contact@evcity.kiwi	Christchurch
Metro Christchurch 03 348 5855 chris@metrochch.co.nz	Christchurch
The Electric Motor Vehicle Company 03 218 7130 027 515 8799 info@electricmv.co.nz	Invercargill



DRIVE THE FUTURE

GOOGLE REVIEWS

5 ★★★★★
37 REVIEWS

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EV Service Centre
38 Wilkinson Road, Ellerslie, Auckland
09 675 4000

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ZERO EMISSIONS

E-BIKE THEFTS SURGE

The e-bike industry is one of the fastest growing industries worldwide with the demand for e-bikes currently outstripping supply.

Unfortunately, thieves know that, and see this as a new opportunity to make a quick dollar, says Nelson-based Hybrid Bikes founder **Frank Witowski**.

"I'm aware that more and more e-bikes are being stolen and sold to people who don't know that they are buying stolen goods," he says.

"Awareness needs to be raised among e-bike owners and potential buyers. Those of us in the industry, including bike shops, can make it a lot harder for thieves to get the chargers they need to keep the e-bikes going. This is the crucial part thieves will be looking for when selling the e-bike on."

Witowski says he gets around two calls a week from people looking to buy chargers.

"They are asking very dodgy questions and when I say to them that they can get one but need to provide proof of ownership they never call back again."

He wants to raise awareness of this issue and the steps customers can take to protect their e-bike purchase, along with moves suppliers and bike shops can do to make it less desirable for people to steal e-bikes.

CUSTOMERS

1. Get your bike insured under your house contents insurance
2. Keep the bike within sight when you leave it anywhere if possible
3. Keep your bike locked with a good quality chain or D lock around some object which can't be moved – such as a lamppost or concrete post
4. Register your e-bike with your e-bike supplier
5. Take a photo of your e-bike so you can share a digital photo of it if it's stolen
6. Take a photo of the serial number and anything which is different or customised about your bike compared with any other e-bike

BIKE SHOPS

1. Ask questions. It is still easy for customers to buy e-bike chargers online without many questions getting asked?
2. If a bike looks dodgy when it comes in for



a service check with the original supplier to see if it's been brought in by the original owner or if they have sold it

3. Check if it has got the original charger. If not, ask what happened to it.

What suppliers can do (Hybrid Bikes does this)

1. We will remove the charger from our online shop so nobody is able to just purchase one
2. We ask for proof of ownership via receipt of purchase before we send a charger out
3. We will match the charger to the e-bike model so it will be easy to see if this charger belongs to the e-bike or it got replaced

What else could be done?

1. Many e-bike riders are using Facebook to share photos, riding experiences, or ask questions. A Facebook page could be started where people share information if their e-bike is stolen
2. Raising awareness of this issue will send the message to thieves that it is not as easy as they think to steal an e-bike and sell it on again
3. Trade Me could have safety measures in place before somebody can list an e-bike for

sale by making it mandatory to list the serial number of the e-bike

4. Suppliers could hold chargers in stock and only sell them if the buyer has been screened for ownership of the e-bike. Bike shops which order a charger would have to prove that the customer who ordered one is, in fact, a legitimate Hybrid Bike (or other e-bike) owner.

All Hybrid Bikes are designed and built in Nelson. The company has a climate positive certification from Ekos, having measured all required activity emissions and offset 11.41 tCO₂e (120%) of its carbon footprint with certified carbon credits.

Hybrid Bikes' carbon fibre frame bikes are strong, durable, sleek, and light. They're faster than comparative e-bikes and range between \$5150 and \$5350 depending on the model.

The bikes have 160kg load capacity, the first service is free and a lifetime warranty is provided for the frame (covering any faulty workmanship).

Visit www.hybridbikes.co.nz for more information.



FTN MOTION'S FOUNDERS WITH THEIR 'CAFÉ RACER' STYLE RETRO ELECTRIC MOPED.

KIWI ELECTRIC MOPED NEARLY READY

Wellington-based start-up FTN Motion has its sights set on the world with a new breed of moped class electric motorbikes.

These have an impressive 30-litres of storage, 100km range, an uncomplicated, stress-free lay-out without a bunch of fussy accessories, and a sleek and classic design with endless opportunities for branding and customisation.

FTN Motion faces a golden window of opportunity in the wake of New Zealand's climate emergency declaration and increasing commitment to EVs.

Its moped is already making waves with enthusiastic customers-to-be, and its beta launch sold out with interest ramping up for an "Early Adopter" launch of 100 bikes towards the end of 2021 and plans to go international by 2022.

FTN Motion's 'Founder Edition' moped is offered for pre-order at \$100 deposit toward the price starting from \$7950.

Founders **Luke Sinclair** and **Kendall Bristow** completed the first prototype of their electric moped during the COVID-19 lockdown.

They're seeking to change the way New Zealanders and the world commute by creating sleek, timeless EVs based on the carefree Kiwi lifestyle.

"Eight years ago, Kendall and I set off to walk the length of New Zealand along the Te Araroa trail," Sinclair says.

"We found that life's good when you can move at your own pace and on your own terms, without all the noise of the modern world. It was also a real wake-up call for us to take a bit more care of this awesome country, and get more proactive about climate change."

Both Sinclair and Bristow received a shock to

the system starting out in their engineering careers in Auckland.

"Like thousands of others we found ourselves wasting hours a day commuting across town in gridlock traffic, pumping out endless clouds of emissions," Bristow says.

"We started looking for alternatives."

Meanwhile, co-founder **Saskia Thornton** decided to ditch Auckland's traffic and move to Amsterdam where she fully embraced a life of not owning a car and cycling wherever she went, also immersing herself in the "moped culture".

"Life is so much easier and less stressful when your life isn't revolving around the worries of driving, finding parks, and traffic," she says.

Thornton hopes that by bringing New Zealanders products like FTN Motion they will help motivate a much-needed change to Kiwi's current commuting habits.

Bristow is a mechanical engineer with seven years' experience specialising in design for manufacture, machine design and industrial automation.

He was the brains behind the idea of building an electric moped, and was quickly joined by his good friend Sinclair, settling on developing a very classic design with lots of storage, which they saw as something missing in the market.

Sinclair previously worked as a mechanical and design engineer for New Zealand companies, including Methven, designing and developing technology aimed at improving water efficiency in showers and tapware.

In 2016-2017 he did a nine-month overland trip from India to the United Kingdom by motorbike.

Thornton joined the team shortly after the

first prototype was born and brings 11 years of developing brands and products on the international stage.

She is the original founder of the Mad Millie cheesemaking and DIY food kits and led the development of the Grainfather brand which introduced an affordable at-home electric brewing system to the world.

Different by design, FTN Motion's electric moped has a classic motorbike feel paired with purposefully minimalist technology and lay-out, for a stress-free, uncomplicated riding experience that will be loved by commuters and adventurers alike.

The battery is easily removable and can charge from any wall socket.

Powered by an electric 3kW hub motor, the 62kg moped has a 50km/h top speed and riders just need a car licence to use it.

Working together with like-minded New Zealand start-ups and brands, FTN Motion is offering a new way of thinking about what a motorbike can be by turning bikes into stunning works of art while also providing an exciting and fresh marketing opportunity for local businesses.

FTN Motion is in negotiations with some of New Zealand's most iconic brands and renowned local and international artists as a result.

A launch into the Netherlands is planned in 2022, where the company expects massive opportunities in the electric moped and commuting industry.

Visit www.ftnmotion.com or email hello@ftnmotion.com for more information.

T-TECH IS BACK, THEMES ANNOUNCED AND CALLING FOR SUBMISSIONS



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

Save the date because preparations for T-Tech 2021 are well underway and we're looking forward to a bigger and better event,

This year's T-Tech will be held in Wellington on June 23-24, focused on the themes of 'Sustainability, Safety and Equity'.

The event is a great opportunity to network with 200 leaders involved in Intelligent Transport, Transport Technologies and Future Transport solutions. Amongst the speakers and audience will be Ministry of Transport, Waka Kotahi NZ Transport Agency, regional government decision makers, transport consultants, mobility and technology providers, experts and academia.

With our Young Transport Professionals (YTP) initiative getting even more traction recently you can be certain youth and diversity will be well represented, no more old school ideas!

We're excited about some of the keynote speakers we'll be revealing in coming months, as the programme comes together.

Continued on following page...



However, it's not too late if you've got a great idea to present. As we do every year, we've invited industry, academia and government to submit their presentations and technical paper concepts.

We have a programme committee reviewing submissions. The best papers and

presentations can win prizes and recognition at the event and speakers also get massive ticket discounts in recognition of the time and expertise they contribute.

Conference tickets will go on sale shortly at \$950, with discounts for speakers, members, academia and students.

GOLD members



SILVER members



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April 21

SAVE BUDGET WITH DATA-DRIVEN DECISIONS

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NEW ZEALAND HAS 0.06% OF 1% OF THE WORLD'S POPULATION, WE ARE LITTLE. WE EMIT 0.17% OF ALL GLOBAL EMISSIONS, THAT'S THREE TIMES OUR SHARE OF THE POPULATION. HISTORICALLY WE HAVE BEEN ATTRIBUTED 0.3% OF ALL THE CARBON DIOXIDE THAT IS IN THE ATMOSPHERE THAT HAS BEEN EMITTED SINCE THE INDUSTRIAL REVOLUTION. THAT IS FIVE TIMES OUR POPULATION."

DR ROD CARR, CLIMATE CHANGE COMMISSION

ADVOCACY SURVEY

Our VP Membership **Armin Guttke** has prepared a survey investigating opportunities for ITSNZ to focus our advocacy efforts.

We have strong relations with government and regularly engage with them on work underway. Find out more on our website.

ITSNZ ROCKS AROUND THE WORLD IN GLOBAL CONFERENCE

If you missed the Shared Mobility Rocks, you missed out.

At the invitation of RMIT (Melbourne) and global shared mobility researcher Luisiana

Paganelli Silva, ITSNZ recently took part in the global event hosted by Belgium's TaxiStop and Autodelen. Speakers from 12 global "studios" presented on shared mobility (carshare, shared bikes and scooters and on-demand PT).

Presentations were a real mixed bag from government, operators and platforms. It was a real pleasure to represent New Zealand with Waka Kotahi NZ Transport Agency representing government and an insight into how COVID has resulted in some really creative events.

See you at T-Tech.

FIRST BMW iX IN NZ Q4

The first all-electric BMW iX will arrive in New Zealand in Q4 this year via two model variants – the iX xDrive40 and BMW iX xDrive50.

Pricing and specifications will be announced nearer the launch.

It's also the first model to feature the new BMW iDrive system, including BMW Operating System 8.

The BMW iX xDrive50's battery has a gross energy content of more than 100kWh, while the battery unit for the BMW iX xDrive40 is more than 70kWh.

Undergoing its final phase of series development, the Sports Activity Vehicle (SAV) is the first model based on a new, modular and scalable toolkit on which the future of the BMW Group will be built.

BMW iX production follows sustainable practices involving compliance with strict environmental and social standards in raw material extraction, using electricity from renewable sources and a high proportion of recycled materials.

The BMW Group procures the cobalt and lithium required for the high-voltage batteries from controlled sources in Australia and Morocco before supplying them to the battery cell manufacturers, while battery cells are made at BMW Group Plant Dingolfing using exclusively green power from certified sources.

Since February the company has procured aluminium manufactured using electricity from solar energy plants.



Rare earths can be avoided in making the electric motors.

The car's interior features FSC-certified wood, leather tanned with olive leaf extracts and other natural materials while mats are recovered fishing nets.

"We are in no doubt mobility has to be sustainable if it is to represent a truly outstanding solution," BMW AG management board chair **Oliver Zipse** says.

BMW AG management board member **Pieter Nota** says the market launch of the BMW iX starts at the end of this year with the BMW iX xDrive40 and BMW iX xDrive50.

A single housing integrates the electric motor, transmission and power electronics, helping optimise aerodynamics and benefitting the drive system's efficiency.

The BMW iX's new technology toolkit underpins further advances towards automated driving, with around double the amount of data from vehicle sensors processed than was previously possible.

It is also 5G capable and will get improved automated driving and parking functions.

"The BMW iX offers a mobile living space in which people will feel at ease, where the car's intelligence is only there when you need it," BMW Group Design senior vice president **Adrian van Hooydonk** says.

MORE KIWIS CONSIDERING EV OPTIONS

More New Zealanders appear to be looking at their EV options, with the number EVs watchlisted onsite at Trade Me up by 8% in February when compared with the same month in 2020, Trade Me Motors head **Alan Clark** says.

However, the number of EVs for sale onsite was virtually flat year-on-year, down by 1% in February when compared with the same month last year.

The Nissan Leaf was the most popular EV model onsite in February, followed by the Nissan e-NV200 and Audi e-tron.

The average price of an EV onsite was \$36,773 in February.

Other EV traders say latest figures from the Ministry of Transport reflect the market, but some Auckland EV dealers have seen their results impacted by COVID-19 related events. EV sales were good in January and February but have been hit by Auckland's last level 3 lockdown, **Henry Schmidt** of Autolink Cars in Newmarket says.

"Lockdowns are killing businesses," says Schmidt who wants to see New Zealand adopt a better COVID-19 track and trace system "like Taiwan's" to avoid any further lockdowns.

He believes many people are confused about what they can do even when lockdowns go to level 2 restrictions.

"We have fewer people come at the weekends to look around the showroom."

Auckland lockdowns and any regional restrictions affect other areas too because people can't travel, Schmidt explains.

EV costs have dropped in Japan, making quality EVs more affordable for Kiwi buyers. But Schmidt says that's of little use to New Zealand if business is slow here.

He's just hoping EV trade picks up again as soon as possible.

Total EV and PHEV February registrations were up 514 (from 24,702 in January to 25,216) – a slight drop on the 602 increase recorded in January on December 2020 registrations.

But new light pure electrics continue the trend of gaining ground on their secondhand versions with a 189 rise (from 5613 in January to 5802 in February).

That may illustrate reports about 86 Tesla Model 3s were registered in February amid suggestions about 300 Teslas were arriving here last month. Social media posts add that a further 48 Tesla Model 3s were registered in the first week of March.

The posts say it appears two shiploads of

Teslas had arrived in Auckland – either both from China or one of them from California – and included Model S and Model X among the latter and Model 3 Standard Range Plus (53kWh battery) and Model 3 Long Range (568km range) from China.

Tesla doesn't reveal how many EVs are sold or landed.

Other new EVs like the MG ZS EV and Audi e-tron variants are also proving popular in New Zealand.

Used light pure electric registrations were up 178 on January (from 12,863 to 13,041), illustrating that secondhand EVs are still a favoured option.

New light plug-ins led the way in the PHEV categories, increasing by 79 on January (from 3720 to 3799) while used PHEVs were not far behind, up 60 (from 2290 in January to 2350).

Heavy EVs are beginning to make inroads with February registrations up eight on January (from 216 to 224) after barely moving in earlier months.

The latest EV total remains short of the 32,000 goal anticipated by the end of last year.

If the Labour Government backs up its talk with action on emissions and possible incentives New Zealand just might get to the previous National Government's target of 64,000 EVs on our roads by the end of 2021 – but it's doubtful and looking more like the end of 2022 at least.

"The new EV figures reinforce that we are still on a more linear growth rather than the exponential expected or needed to reach 64,000 by end of year," Volt Vehicles director David Lees says.

He says Auckland-based Volt Vehicles has noticed a drop in enquiries and hence sales from stock in February. "By contrast sourcing to order has been relatively consistent."

Prices in Japan are still competitive but appear to have plateaued so far this year, says Lees, adding that some delays in shipping are being experienced.

He says the trend of trading-in 24/30kWh Nissan Leafs for 40kWh Leafs is continuing.

February was another record setter for EV City. even after more of the "feebates coming soon" rhetoric coming from the James Shaw camp, EV City Christchurch owner **Dave Boot** says.

Education and experience remain the key attributes needed to "sell" EVs in the current climate and to overcome "will feebates be announced next week?" fear some



HENRY SCHMIDT



HAYDEN JOHNSTON



ALAN CLARK



NICHOLAS DOWN



ALISTAIR GILMOUR



HADLEY HARGADON



DAVE BOOT



DAVID LEES

Continued on following page...

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consumers have, he adds.

"Even with the mounting arsenal of good science on climate change and the need to reduce the emissions from our transport sector, to date the current government has in fact slowed the uptake of EVs with its uncertain 'maybe coming soon' message which is being heard by concerned shoppers not wanting to miss out of the free cash," Boot believes.

He says secondhand EV supply from Japan is good with better prices on some EV models.

"March is already looking great."

Hayden Johnston of GVI Electric says EV enquiries continue to be strong and sales are solid [when the Auckland company can open its doors].

"Stock in Japan has increased in the past weeks and the weaker yen has helped with more expensive EV models like Tesla and 62kWh Nissan Leafs."

Johnston says he remains amazed the government appears to be trying to prevent the importation of fuel efficient, safe new and pre-owned vehicles but allows a deadly virus (COVID-19) to be brought into the country (although carriers are kept in managed isolation and quarantine).

Steve Greenwood of Drive EV in Taupo says he's been pretty busy.

"We've been going well with the latest models selling fast."

Greenwood says he sold out of Honda e and Volkswagen ID.3 EVs, with more arriving soon.

Meanwhile, he has a Peugeot e-208 and says there's keen interest in the MG5 electric station wagon – "lots of people want to see it".

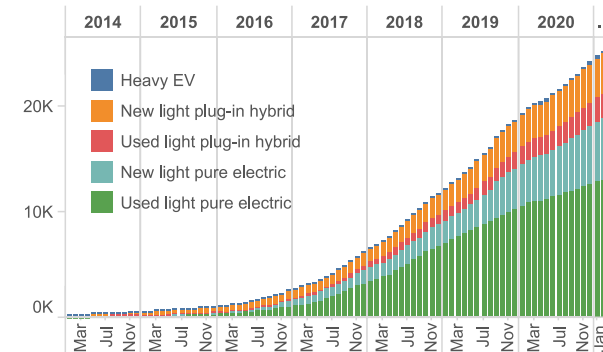
EV sales have been strong for the past few months and Greenwood expects that to continue, especially with many exciting new models arriving.

Hamilton Electric Vehicles dealer principal **Nicholas Down** says; "So here we are in March and what has the government done to help New Zealanders stop wasting millions of dollars in petrol and causing serious damage to our health?"

"Nothing – oh, except they did find over \$250 million to host the America's Cup. But seriously, if we want EV uptake with any serious numbers this government has to do much, much better than the current effort."

Down says Hamilton Electric Vehicles sales for February were steady and above budgeted targets. "We are noticing an increase in 'price-driven' buyers, buying from

EV fleet size



the likes of back yard dealers and auction houses then discovering no warranties or issues on what they initially thought was an 'amazing deal'," he says.

"This shows the lack of education that some buyers of EVs have and they become fools for trying to save a few dollars."

Hamilton EV has nine pre-orders for March and April.

"If that continues we will be well ahead again of budget and sales targets," Down adds.

"We received seven electric vehicles from an Auckland dealer that closed down and sold four of them in the first three days, ironically two of them back into the Auckland market.

"That's great news for the (national) EV target for 2022 - oops strike that, 2023 at the rate we are going."

Hadley Hargadon of Auckland City Electric Vehicles says they had a great start to this year with sales and enquiries continuing even during Auckland's level 3 lockdown and subsequent level 2 restrictions during early March.

"People were still buying EVs while following the level 3 rules and seemed to have a better idea of what to do during this lockdown when compared with the last," Hargadon says.

He says this year is shaping up a good one for EV sales and interest, particularly as many new customers are talking to friends who already have EVs and learning about their benefits.

Hargadon says he has plenty of EV stock and that while the Nissan Leaf is still popular they're selling them not just with the 40kWh battery but 30kWh and 62kWh as well.

The Electric Motor Vehicle Company in Invercargill says EV sales are beginning to climb with 40kWh Nissan Leafs among the more popular EVs.

"We're getting more positive enquiries and sales are starting to pick up."

Alistair Gilmour of Gilmour Automotive and EV Cars in Dunedin also says everything has been going well this year.

NEW MAKES & MODELS & USED IMPORTS

NEW EV CAR TYPES - ELECTRIC	
MAKE AND MODEL	FEB 2021
TESLA MODEL 3	86
MG ZS	34
PORSCHE TAYCAN	19
AUDI E-TRON	15
HYUNDAI IONIQ	8
MERCEDES-BENZ EQC	7
HYUNDAI KONA	6
KIA NIRO	4
MINI HATCH	3
NISSAN LEAF	3
XCMG E300	3
ALEXANDER DENNIS ENVIRO 200	2
BMW I	2
RENAULT KANGOO	2
VOLKSWAGEN GOLF	2
JAGUAR I-PACE	2
FACTORY BUILT YUTONG	1
YANGTSE MOTOR GROUP UT200RHD	1
TOTAL	200

NEW EV CAR TYPES - PLUG-IN HYBRID	
MAKE AND MODEL	FEB 2021
MITSUBISHI OUTLANDER	41
MINI COUNTRYMAN	14
BMW X3	12
BMW 3 SERIES	5
BMW X5	5
TOYOTA PRIUS	5
MERCEDES-BENZ A-CLASS	3
HYUNDAI IONIQ	2
BMW 5 SERIES	1
KIA NIRO	1
MERCEDES-BENZ A-CLASS	3
HYUNDAI IONIQ	2
BMW 5 SERIES	1
KIA NIRO	1
MERCEDES-BENZ GLC	1
PORSCHE CAYENNE	1
MERCEDES-BENZ GLC	1
PORSCHE CAYENNE	1
VOLVO XC60	1
VOLVO XC90	1
TOTAL	93

USED EV CAR TYPES - ELECTRIC FEBRUARY 2021		
MAKE	MODEL	TOTAL VEHICLES
NISSAN	LEAF	151
NISSAN	E-NV200	5
BMW	I3	4
VOLKSWAGEN	E-GOLF	4
PORSCHE	TAYCAN TURBO S	3
VOLKSWAGEN	ID3	3
BYD	E6Y	2
PORSCHE	TAYCAN TURBO	2
MITSUBISHI	I-MIEV	1
MITSUBISHI	MINICA	1
NISSAN	NV200	1
PORSCHE	TAYCAN	1
TOTAL		178

USED EV CAR TYPES - PLUG-IN HYBRID FEBRUARY 2021		
MAKE	MODEL	TOTAL VEHICLES
MITSUBISHI	OUTLANDER	29
TOYOTA	PRIUS	19
VOLKSWAGEN	GOLF	4
AUDI	A3	3
BMW	330E	1
BMW	530E	1
BMW	I3	1
BMW	X5	1
MERCEDES-BENZ	C350	1
MERCEDES-BENZ	E300	1
TOTAL		61



GET MOTORING ON EVS

One of newly formed CATCH Commercial Partners' main aims is to enable corporates, Government entities and SMEs to become more sustainable, including switching to e-mobility.

The Wellington-based consultancy run by **Karen Whitehouse** and **Melvin Worth** saw a need to use their extensive experience from both private and public sectors to help others adapt to change and clarify their aims and ambitions, particularly around reducing their carbon footprint and enabling the transition to EVs and other e-mobility forms.

They especially want to leave a sustainable impact their children (CATCH combines all the children's initials) would be proud of.

Initially from the United Kingdom, Whitehouse and Worth say change and transformation have been common themes throughout their careers.

We understand what the successful ingredients are to translate strategy into action and convert action into tangible outcomes," they say.

"We're here to help."

People may think they have to make wholesale changes; "We help stakeholders identify and reprioritise what are perceived and what are real issues."

For EVs that may mean assisting an organisation to establish what the actual

consumer needs are and how to implement practical steps to achieving carbon net-zero emissions across their fleet.

Transitioning to EVs is typically complex for most organisations and will have multiple stakeholders with varying interests to manage throughout the change. CATCH Commercial Partners are currently assisting companies to devise their EV strategy, from concept to outcome.

Milestones may be set for those businesses to achieve their goals, and Whitehouse and Worth stress any change needs to have buy-in from the boardroom to the front-line and the drivers who will be using the EVs.

Both Whitehouse and Worth believe more incentives are needed to encourage mass uptake, and to switch, preconceived ideas may have to be overcome.

Overcoming range anxiety is one of the many challenges faced by firms switching to EVs, but Whitehouse and Worth say most commutes and business trips are well within the range of many EVs, with EV range improving all the time.

"People should feel it's OK to stop for 15 minutes to charge-up on the road while they grab a coffee and take a short break," Worth adds.

Behavioural change is often needed when organisations make the switch to EVs,

Whitehouse and Worth saying they can help guide people through that process.

Optimising your vehicle fleet is a step in the right direction, but Whitehouse and Worth say to achieve net-zero transportation, conversion is clearly required. Businesses could consider how and where vehicles are being used so that suitable EV alternatives can be made available.

They say it's great that Government has committed to, where practical, converting most of its vehicle fleet to EV – It sets an example.

There is still a long way to go in reaching this target. Carbon-free targets have been set from 2025 onwards. "Some may feel that's a long way off but it's not and there won't be a silver bullet."

"Quite often the conversation struggles to get off the ground due the complexity of conversion. "We'd be happy to support organisations irrespective of where they are in their EV transition journey. The more businesses progressing their conversion strategy the sooner we will all benefit."

They say, "We all need to get motoring on it and we're here to help."

Get in touch via info@catchcommercial.co.nz if you'd like to chat.

EV GLOBAL ADVANCES

We check out what's happening around the world in the EV-related space.

IS 2021 THE YEAR OF THE EV?

This year is pivotal for EVs.

That's because automotive manufacturers are electrifying their line-ups and redefining their images while offering a greater EV selection amid rising consumer interest.

EV sales are poised to hit their highest level on record in 2021 for those reasons, experts at US-based car buying platform Edmunds say, adding it anticipates that 30 EVs from 21 brands will become available for sale this year – compared to 17 vehicles from 12 brands in 2020.



EUROPE'S E-MOTORCYCLE MARKET ACCELERATES

Europe's electric motorcycle market is expected to grow at least 50% year-on-year through the 2020s.

That's according to IDTechEx which says the e-motorcycle surge mirrors EVs and is driven by continued policy support from governments alongside start-ups and incumbent OEMs entering the market with new model releases, its report Electric Two-wheelers 2021–2041 says.

Growth is also being boosted by consumer awareness and acceptance in Europe of the benefits of electric motorcycles, the report adds.



FORD GOING ELECTRIC IN EUROPE BY 2030

Ford says its entire European passenger vehicle line-up will be all-electric by 2030 and all Ford cars will be available in electric or hybrid models by mid-2026.

The announcement has come from Ford Europe president **Stuart Rowley** who says Ford will spend about US\$1 billion upgrading its Cologne factory to produce EVs for the mass market by 2023, the BBC reports.

Ford's electric move follows that of several other major automotive manufacturers such as Jaguar Land Rover, General Motors and Volvo.



ORDERS FLARE FOR APTERA SOLAR CAR

A solar car from US-based Aptera Motors is due on the road later this year after more than 7500 reservations have been received and a successful funding round raised over US\$4 million.

The three-wheeled, two person Aptera costs from US\$25,900, is able to travel up to 65km on just solar and can be plugged-in if necessary to add 240km range in about 15 minutes.

Aptera recently moved into its new production design studio in the Sorrento Valley area of San Diego.



AUTO SHANGHAI 2021 TO SHOWCASE MOBILITY'S FUTURE

EVs take pride of place at Auto Shanghai in China on April 21–28.

The popular show will focus on New Mobility China – a platform for the future of driving covering electromobility, autonomous driving and digitalisation.

China is the world's most important market for future technologies in the automotive industry, not least thanks to state funding, smart city initiatives and the growing integration of vehicle, road and urban infrastructure, according to organisers.



DAIMLER TO SPLIT BRAND FOR ZERO-EMISSIONS FUTURE

Mercedes-Benz will handle cars and vans and Daimler Truck will accelerate zero-emission trucks and buses under a planned separation of Daimler's industrial businesses.

Daimler Truck management board chairman **Martin Daum** says it will pursue battery electric and fuel cell trucks, plus autonomous driving.

The final decision has to be made by an extra-ordinary shareholder meeting of Daimler in Q3 2021.



TOYOTA PLANS AVS SOON

Toyota expects to have e-Palette autonomous electric vehicles providing on-demand transport services for customers in different markets and regions in the early 2020s.

Working with a range of partners, the autonomous vehicles (AVs) will be deployed at Toyota's Woven City, a fully connected prototype city being built near Mount Fuji in Japan.

Toyota's e-Palette symbolises the global company's transition from carmaker to mobility provider, going beyond the scope of conventional cars to offer new services and value and also recognises that COVID-19 has changed the way people lead their lives, creating more diverse mobility needs.



HONDA E WOMEN'S WORLD CAR OF THE YEAR BEST EV

The Honda e is named Electric Vehicle of the Year in the Women's World Car of the Year awards.

The organisation says the awards' objective is to choose the best cars of the year – not 'women's cars' because there is no such thing. Instead, cars are chosen based on the principles that guide all consumers including safety, quality, price, design, driving dynamics, and environmental impacts.

WWCOTY was created by Kiwi motoring journalist Sandy Myhre in 2009, currently serving as honorary president.



HIGHLIGHTS OF THE MONTH

A round-up of key items throughout New Zealand during the past month.

HYUNDAI RECALLS 82,000 EVS

Hyundai has reportedly issued a voluntary recall of three EV models – the Kona (75,680), Ioniq (5715) and Elec City bus (305) – after South Korea's Transport Ministry said a series of fires there involving Kona vehicles had most likely been caused by short circuits in defective high-voltage battery cells.

Hyundai New Zealand was awaiting official confirmation before advising customers of any next steps.

A total 81,701 units of the three cars – 26,699 units in Korea and 55,002 units in other countries, will be recalled, The Korea Herald reports, adding the models involved were built between November 2017 and March 2020.



DEPARTURE TAX COULD FUND HYDROGEN AIRCRAFT?

A new departure tax would help produce low-carbon planes and provide a source of climate finance for Pacific Island nations.

So says Parliamentary Commissioner for the Environment former National MP Simon Upton who suggests New Zealand and international travellers pay an extra levy on all outbound flights.

The money would be earmarked for green planes – including hydrogen and battery powered aircraft – and solar panels, wind farms and EVs for Pacific islands.



FORD RANGER PHEV BY 2024?

Ford confirms it will produce a plug-in hybrid (PHEV) Ranger ute, according to media reports.

The Ranger ute is included in Ford Europe's commercial vehicle range which will all be "zero-emission capable" by 2024, CarExpert says.

Ford Australia says it's too early to discuss what impacts Ford of Europe's move will have on other markets.



VOLVO XC40 PHEV ARRIVES

Volvo will launch its new XC40 Recharge Plug-in Hybrid (PHEV) to the New Zealand market with expectations the first shipment will sell out within weeks.

Pricing starts at \$84,900 plus on-road costs and customer deliveries are expected from the second half of the year.

Two models will be on display at Volvo retailers for Kiwi customers to experience firsthand during the Recharge roadshow which started in Auckland on February 18.



HYUNDAI IONIQ 5 LAUNCHES LOCALLY LATER IN 2021

Hyundai's electric Ioniq 5 midsize SUV has been launched in a virtual world premiere event and is expected here in the second half of this year with pricing and local specs due for release closer to the market launch.

Ioniq 5 customers will be able to select from two battery pack options – 58kWh or 72.6kWh – and two electric motor layouts, either with a rear motor only or with both front and rear motors – the AWD 72.6kWh option capable of 480km range.



MERIDIAN LAUNCHING NATIONWIDE EV CHARGING NETWORK

Meridian Energy will launch a nationwide EV charging network of more than 200 AC chargers over three years to malls, retail and business parks, and community facilities – complementing existing DC fast chargers.

"We know that the electrification of transport is one of the biggest ways that we can help combat climate change," Meridian chief executive Neal Barclay says.

"But New Zealand needs more extensive charging infrastructure to help build real momentum to the switch to electric."



HYZON TO DELIVER 1500 HYDROGEN TRUCKS TO NZ

US-based Hyzon Motors is promising to deliver 1500 hydrogen fuel-cell trucks (FCEVs) to New Zealand over the next five years with the first fleet arriving by the end of the year.

The announcement is part of a vehicle supply agreement with New Plymouth-based Hirlinga Energy.

The trucks will be fuelled by Hirlinga's nationwide "green hydrogen" refuelling network located on key partner sites such as Waitomo Group's existing fuel stops and Hyzon will build and supply the heavy vehicles.



HENDERSON HOSTS EWORLD MAY 6-8

Transport minister Michael Wood and Norwegian EV Association leader Christina Bu are among key speakers at the eworld expo and conference in The Truist Arena at Henderson in Auckland.

The e-mobility and sustainable technologies event, run by Conferenz, from May 6-8 includes a trade day with seminars on May 7, a free public expo day on May 8, and the EVs and Sustainable Transport Conference on May 6 and 7 which focuses on decarbonising New Zealand's transport system.

Conference themes include the need to electrify New Zealand's fleet; batteries, components and parts (rEVving up EVs); what's here and what's to come, plus six case studies on transport electrification.



PLUGGED IN!

Stay connected to the EV community with useful links below.

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

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



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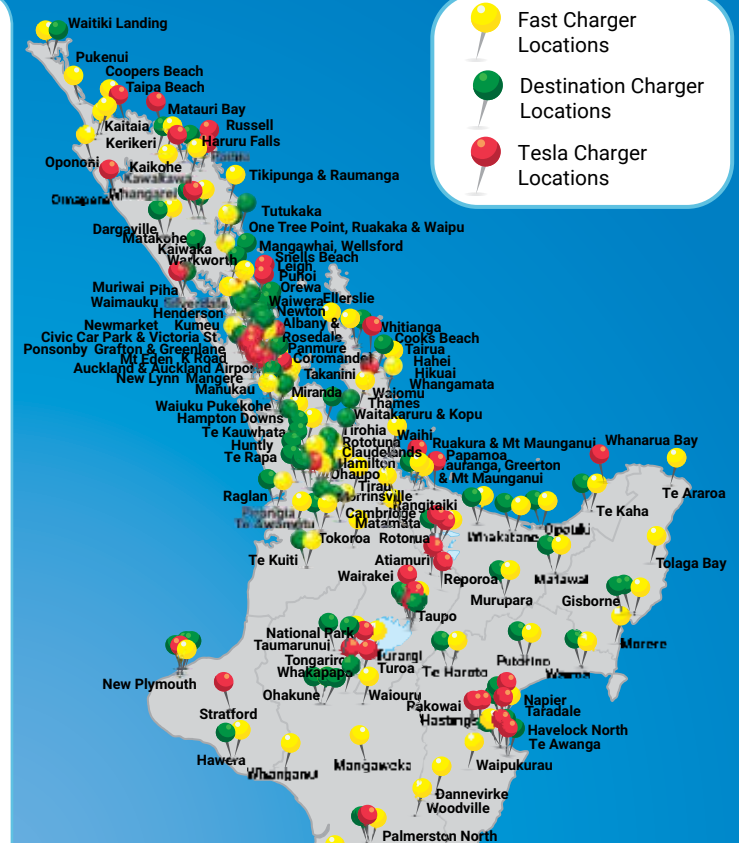
EV CHARGING LOCATIONS

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

Fast / Super Charger Locations – North Island

Waitiki Landing Pukenui Coopers Beach Kaitaia Kerikeri Opononi Kaikohe Kawakawa Tikipunga Whangarei Raumanga Dargaville Kaiwaka Warkworth Warkworth Orewa Silverdale Albany Rosedale Kumeu Henderson Akld CBD Beach Rd K Road Newmarket Greenlane Pakuranga Botany Downs Akld Airport Akld Airport Takanini Takanini Coromandel Whitianga Tairua Pukekohe Pukekohe Waiuku Thames Whangamata Hampton Downs Te Kauwhata Waihi Huntly Morrinsville Te Rapa Rotorua Matamata Hamilton Hamilton Claudelands Hamilton Hamilton Ruakura Raglan Tirau Mt Maunganui Mt Maunganui Cambridge Pirongia Te Awamutu Whakatane Opoiki	9049 Far N Rd, Te Hapua 0484 Houhora Fishing Club, 4126 Far Nth Rd Four Square, 9 Coopers Dr Te Ahu, 28 South Rd Pak'nSave, 111 North Rd 1 Butler Rd Four Square, 29 SH12 Library Carpark, 14 Marino Pl 4 State Highway 1 Paramount Plaza, 1 Wanaka St 11 Alexander St McDonalds, 130 Tauroa St Totara St Park, 113 Totara St 1 Kaiwaka-Mangawhai Rd New World, 6 Percy St BP, 67 Auckland Rd (SH1) New World, 11 Moana Ave 17 Hibiscus Coast Hwy The Warehouse, 186 Don McKinnon Dr McDonalds, 14 Constellation Dr New World, 110 Main Rd Pak'nSave, 224 Lincoln Rd Vector, 21 Hobson St Z Station, 150 Beach Rd Tesla, 501 Karangahape Rd 1 Gillies Ave McDonalds, 320 Gt Sth Rd BP, 322 Pakuranga Rd Z Station, 550 Te Irirangi Dr Shopping Ctr, George Bolt Mem. Dr Z Skyway, George Bolt Mem. Dr 30 Waltern Rd Pak'nSave, 345 Great South Road 44 Woolams Rd 4 Lee St Carpark, 6 Tokoroa Rd King Street Carpark, 56 King St Counties Power, 14 Glasgow Rd (Bus hrs) Kitchener Rd Carpark 505 Mackay Street 100 Hetherington Road Gate 1, Motorsport Park 16 Wayside Rd New World 35 Kenny St Countdown, 18 Tumate Mahuta Dr New World, 79/89-97 Thames St WEL Networks, 114 Maui St Countdown, 160 Peachgrove Rd New World, 45 Waharoa Rd Tesla, The Base, Te Rapa Rd Countdown, 551 Anglesea St Countdown, 160 Peachgrove Rd Caro St Carpark, 7 Caro St Countdown, 4 Bridge St Waikato Innov. Pk, 9 Melody Ln 43 Bow St 3 Station St Bayfair, 19 Girven Road New World, 1 Tweed St (25 kWh) 73 Queen Street Four Square, 270 Crozier St 10 Scout Lane i-Site, 30 Quay St i-Site, 70 Bridge St	Te Kaha Te Kaha Bch Res, 3 Hotel Rd 22 Rata St (25 kWh) 1134 Haupapa St New World, 72 Bridge St 6522 Matawai Rd 43 Cook St (25kWh charger) New World, 39 Rora St Pine Drive Car Park, Pine Dr Firestation, 1 Kaimanawa St 21 Gladstone Rd Tesla, 1 Kaimanawa St Hot Pools, 3968 SH2 (25 kWh) Lodge Café, 3281 SH5 1 Pihanga Rd 66 Courtenay St Business Centre, 23 Napier St 75 Queen St 5466 State Highway 2 Four Square, 4354 SH4 New World, 30 Ayr St New World, 12 Huia St Mc Vicar Rd, 4237 SH5 Cnr SH1 & Hassett Dr Pak'nSave, 54 Princes St 200 Dickens St 100 Queen St W Papa Cliff Café, 2 Koranui St Pak'nSave, 167 Glasgow St 34 Russell St 24B Gordon St i-SITE, 43 Vogel St i-SITE, 126 The Square Tesla, 365 Ferguson St New World, 21 Bath St New World, 155-163 Main Hwy Kapiti Pak'nSave, 132 Rimu Rd 15 Raumati Rd, Paraparau 70 Wellington Rd Paekakariki Queen Elizabeth Park, 3 Dixon St 2 Serily Pl SuperValue, 42 Fitzherbert St 24 Queen St Dowse Art Museum, 1 Stevens Gr Grey St Parking Z Station, 60 Hutt Rd Z Station, 174 Vivian St Barnett St Carpark, 11 Barnett St Inglewood Parking, 68 Inglewood Pl
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- Fast Charger Locations
- Destination Charger Locations
- Tesla Charger Locations



Fast / Super Charger Locations – South Island

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