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SPRING INTO E-MOBILITY ACTION



By **Geoff Dobson**,
Editor

More e-bikes, e-scooters and other e-mobility transport can be seen as the weather improves. **Spring will see people out on electric travel modes, especially with El Nino expected to bring more sunny days.**

Like many, I'm already well over the wet weather we've had and looking forward to getting on my e-bike without a raincoat.

I've noticed a few others braving the winter conditions on their e-scooters and e-bikes, but many more are likely to be out on them soon, especially with fuel price rises and the rising cost of living encouraging it.

The New Zealand Electro Mobility Summit and Expo at Auckland waterfront's The Cloud on September 5 and 6 will kick-start the spring and summer programme.

Discussion at the event includes new vehicles and technology coming to New Zealand, and how energy companies will meet the increased demand for electricity and infrastructure.

Motorsport figures **Greg Murphy** and **Hayden Paddon** will be among people at the Brightstar organised summit and expo for the trade.

Meanwhile, EV dealers report good sales, even over traditionally slower winter months.

That's in spite of consumers cutting back on most spending.

A chill remains in the air if recent economic figures are anything to go by with the Q2 NZ Retail Trade Survey leaving little doubt Kiwis are shutting their wallets.

So says the ASB Bank's weekly economic report on August 28.

The survey shows total retail volumes fell for the third consecutive quarter and are down 3.5% on year-ago levels.

Core volumes (which exclude vehicles and fuel sales) contracted 5.1% on year-ago levels, the report adds.

"Consumers are cutting back on discretionary spending - otherwise known as the nice-to-haves," the bank says.

"Hospitality and durables spending volumes fell in the second quarter, translating into things like fewer meals

out and less home upgrades.

"The fact that consumers are cutting back isn't surprising and we've been warning for some time that 2023 would be a challenging year for consumers and, by extension, the retail sector.

"However, we've been slightly surprised by the extent of the pullback so far in 2023."

The ASB's weekly report says that in spite of the high cost of living and rising mortgage interest rates there have been some tailwinds.

Collectively, households were still sitting on \$30 billion of savings accrued during COVID, nominal wages were rising at a historically fast pace, and high net immigration has been boosting the population and, by extension, demand.

"However, those tailwinds are fading while the headwinds remain very much in play," says the ASB report, noting household expenditure recovery is unlikely to eventuate in 2023.

The report predicts the New Zealand economy quarterly economic activity flitting between small positives and negatives during the rest of 2023, and it believes the Reserve Bank's OCR of 5.50% remains the peak but that OCR cuts are about a year away.

"This week in NZ the focus turns to confidence for consumer and business. Both are likely to remain subdued.

"We expect businesses to report a subdued activity backdrop, with consumers reluctant to commit to major purchases," the ASB report says.

"Election-related nerves/hesitancy could be weighing on the NZ economy, but we feel that the slowdown is largely a consequence of the extensive monetary tightening being delivered thus far."

That may translate to more people opting for e-mobility travel.

Media reports of fires have heightened some concerns about charging e-mobility devices.

Columnist **Jonno Leonard** likens those e-mobility fires to shark attacks - rare, and usually avoidable.

Geoff Dobson
EDITOR



NATIONAL PROPOSES TO 'TURBO-CHARGE' EV INFRASTRUCTURE

The National Party says it will deliver 10,000 EV chargers nationwide by 2030 if elected to government and has also set a date in which it would scrap the Clean Car Discount.

It reckons the network will allow more Kiwis to make the switch and that National will invest \$257 million over four years to provide the public EV chargers, which it says is nearly 10 times more than currently.

National continues to confirm it will scrap the Labour Government's "ute tax" (aka Clean Car Discount) confirming it will end the scheme on December 31 if elected.

Instead, it will accelerate the public charging infrastructure roll-out while reviving the ultra-fast broadband model to ensure the EV chargers are built where drivers need them in underserved areas, the party says.

Funding for the cost of winding up the CCD scheme will come from ending Auckland's light rail, saving about \$178 million from unspent funds for land acquisition and planning, says National, which also intends setting aside other funds.

National adds it will "turbo-charge" new renewable energy projects (including wind, solar and geothermal) by requiring decisions on resource consents within one year and consents to last 35 years.

Consents for infrastructure upgrades would be eliminated, says National which intends cutting red tape holding back EV infrastructure investment.

Drive Electric chair **Mark Gilbert** says National's new EV policy will bring fewer emissions, cheaper transport and energy independence from fossil fuels.

"Transport is 18% of our GHG emissions, and 90% of these emissions are from road transport," he explains.

"Decarbonising transport is the low-hanging fruit in our response to climate change and critical to hitting our first and second emissions budgets.

"New Zealand's public charging infrastructure is lagging behind the world, and so we strongly support any additional investment to create a world class network of chargers for EV drivers today and tomorrow. Eventually almost all New Zealanders will come to depend on this network, directly or indirectly."

Gilbert says public investment can spark private sector investment many times over.

"There are a range of players in New Zealand ready to deploy networks, including Jolt, ChargeNet, Tesla, Meridian, BP and Z Energy.

"There are many barriers to investment in public charging. It is challenging for national charging providers to connect through 29 EDBs across the country with different approaches to pricing and making connections.

"Public chargers are asking for more consistency in approach. This is crucial.

"Ultimately to make public charging investment economic and to decarbonise transport, we need more people in EVs sooner rather than later.

"We continue to believe there is an important role for both the Clean Car Discount and Clean Car Standard, because it is a policy that has delivered results," says Gilbert.

"At the end of 2020 EVs had 2.3% market share of light vehicle sales, by the end of 2022 they made up 10.67%. This year that figure will be higher still. But, in total EVs are not yet quite 2% of the total light fleet.

"We should see sticker prices come down to meet those of ICE over the next couple of years, which would be the time to consider phasing out incentives," he says.

Meanwhile, ChargeNet says National's policy will strengthen charging networks and electrification of transport.

"With both National and Labour offering support to the emerging EV charging industry, the bipartisan support to decarbonise the transport sector is an encouraging sign for investors and New Zealand drivers," ChargeNet adds.

Efforts to strengthen and diversify EV market growth, as well as charging infrastructure in New Zealand, must be maintained as the cost of an EV approaches price parity with internal combustion vehicles within the next five years, says ChargeNet chief executive **Danusia Wypych**.

"I have recently returned from a European market insights tour, where there is a public charger for approximately every 10 EVs on the road," she adds.

"In New Zealand, that ratio is closer to one charger for every 100 EVs.

"The demand is already there. Earlier this year, when we paired a new hyper-rapid 300kW charger alongside our hard-working 50kW charger in Bulls, the new charger hit more than 10% utilisation in the first month, in line with international utilisation rates," says Wypych.



ELECTRO MOBILITY SUMMIT A SUCCESS

Organisers of the two-day Electro Mobility Summit in Auckland are hailing it a success.

Brightstar estimates more than 500 people daily visited the trade expo and at least 200 daily listened to summit speakers at The Cloud.

EVs and Beyond was among more than 50 exhibitors.

The event included political and energy panels – the former not revealing much prior to the October general election, EV charger displays, electric trucks, Kiwi rally driver **Hayden Paddon's** Hyundai EV rally car, automotive brands, the launch of BP Charge, a Z Energy display.

Speakers included ChargeNet's **Danusia Wypych** explaining its New Zealand plans for EV chargers, motorsport legend **Greg Murphy** talking about the need for improved road safety education, Meridian's **Nick Robilliard** mentioning what the electricity company is doing in the EV space, and **Richard Briggs** outlining the Energy Efficiency and Conservation Authority (EECA) and its role and plans.

Topics also included hydrogen, road user charges, Auckland electric ferries, electrical



infrastructure, EV developments.

For many, the summit was a chance to catch up, exchange information, and outline plans.

A similar event – probably to reopen to the public for a day – is being considered for next year.

EVs&BEYOND

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ABB LAUNCHES TERRA 360 EV CHARGER IN NZ

One of the world's fastest EV chargers, the ABB Terra 360, was launched at the Electro Mobility Summit in Auckland's The Cloud venue in early September.

With World EV Day on September 9, and the large uptake of EV vehicles by New Zealanders over the last couple of years, the timing couldn't be better for the Terra 360 to help accelerate the transition to sustainable driving, says ABB.

The charger has a maximum output of 360kW and can fully charge an electric car in 15 minutes or less, helping EV users get a fast charge or top up their cars' battery while

grocery shopping.

The Terra 360 is a modular charger which can charge two vehicles simultaneously with dynamic power distribution optimising the charging speeds for each outlet.

That means drivers won't have to wait if somebody else is already charging. They simply pull up to another plug.

It can add 100km in less than three minutes, bringing more charging power to urban locations, and helps keep customers and fleets on the move. It's powerful, flexible, user-friendly, and designed for accessibility.

Users can start charging in seconds with the unit's Plug&Charge functionality. It has a long cable reach that serves all EV models with a user-friendly retractable cable system and can be accessed easily by wheelchair users.

The Terra 360 meets the major charging standards, CCS-1 and CCS-2.

It provides a simple user interface, along with LED lighting indicating availability of charger and charging status.

A large LCD screen for advertising and entertainment is available and can be branded easily and customised in different colours.

"The Terra 360 is capable of charging all kind of vehicles extremely fast," says **Duncan Baker**, ABB's vice president of marketing and sales, smart power and smart buildings divisions.



"This coupled with the highly user-friendly features in the screen and cable system means that the technology provides the seamless charging user experience every EV driver needs.

"It's designed specifically to charge both passenger and commercial vehicles.

"The Terra 360 offers ultimate versatility with various parking configurations, whether frontal parking or drive through, and easy customisation.

"This makes it ideal for supporting commercial fleets, retail spaces, and refueling stations. Its compact footprint also makes it a perfect fit for kerbside charging and small urban spaces."

The Terra 360 is a smart and sustainable investment helping charging network operators deploy fast-charging stations and accelerate the transition to future mobility.





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EVS & BEYOND



ENTRY-LEVEL DOLPHIN SURPRISES

BY RICHARD EDWARDS

In spite of the dominance of SUVs in the EV market for years – with the notable exception of the Tesla Model 3 – small hatchbacks are now the talk of the town.

The Ora Good Cat led the way, followed by the Cupra Born, and now we have offerings from major Chinese brands: the MG4 from MG and the Dolphin from BYD.

If you prefer cars with a standard ride height, it's an exhilarating era.

Last month, we reviewed the MG4 and were thoroughly impressed. It offers considerable performance and range for its price, albeit with some space and material trade-offs.

On paper, BYD's Dolphin seems hard-pressed to compete in its base model form, primarily because of a \$4000 difference in the starting price.

But does this disparity truly reflect real-world performance?

Our initial impressions of the pre-production models revealed BYD's commitment to quality and functionality.

In its present form, the Dolphin not only contends with rivals but sets benchmarks in numerous areas. Priced at \$49,990, it qualifies as an affordable electric vehicle.



Yet, "affordable" in this context doesn't mean "basic".

EXTERIORS

The Dolphin may seem compact, but it's actually three millimetres longer than its counterpart. It proudly showcases its electric vehicle identity with a unique front end, largely free of the typical grilles, save for the one at the base. This design choice provides a longer cabin and increased space.

A glass roof panel is included, which can be both an advantage and a drawback, depending on the height of items you place inside.

The rear taillights incorporate intriguing details, including the 'Build Your Dreams' branding which is fixed and can't be removed on this model.

A notable detail is the inclusion of Linglong tyres adorned with unique Dolphin imagery – a delightful touch.

Continued on following page...

INTERIORS

Let's start with space. Unlike the MG4, someone around six feet tall can sit comfortably in the back, even behind their own driver's seat – though snug, it's feasible. The back seat is laudably spacious and offers unexpected comfort.

However, the Dolphin's boot space is a bit limited. Though 345 litres might sound sufficient on paper, its design can make stowing larger items challenging, even when adjusting the floor.

The interior quality in the production model is robust, using a blend of durable plastics and plush surfaces.

Everything feels tightly assembled, bordering on premium. Features such as a start button, tactile controls for drive modes, and climate control elevate the driving experience.

Still, some users might need time to adjust to the transmission shifter design..

You do get the big spinning screen like the larger Atto 3, and it works in much the same way, though it drops the drive recorder system.

Wired Apple CarPlay and Android Auto are part of the package, as is a period of free wireless data. You also get app connectivity, which allows you to unlock and start the car, though not in the seamless way of a Tesla.

The inclusion of wireless phone charging is a commendable feature, often absent in many competitors at this price point.

DRIVE EXPERIENCE

The main distinction between the standard and extended range models lies in the battery size and subsequent performance.

The 45kWh battery doesn't set industry



standards, even considering BYD's renowned LFP blade design.

Furthermore, its charging speed isn't groundbreaking, maxing out at 60kW on a SC charger.

With only 70kW power from the motor and a 12-second 0-100km/h time, it isn't breaking any records either.

However, in the broader context of the car's offerings, these figures work well.

It's sufficiently agile for city commutes and excels in range. With a 340km WLTP range, it outperforms the MG, which possesses a larger battery, at a reported 15.2kWh per 100km.

Our test car, having been extensively driven around the city by potential buyers, showcased an impressive consumption rate of 11.6kWh per 100km.

The Dolphin's ride quality stands out, adeptly handling road imperfections. Its quiet

drive, paired with the Linglong tyres which, though not the grippiest, are notably silent, enhances the overall experience.

The Dolphin has the usual list of safety and driver assistance systems. There are plenty of airbags, lane keep assist, blindspot assist and adaptive cruise control as starting points.

But as this car was yet to be calibrated to NZ roads, we will wait till we have driven a local car to comment.

CONCLUSION

The BYD Dolphin Standard Range is a compelling option, particularly for fleet purposes. For buyers eyeing vehicles in this bracket, the Dolphin stands out with its superior specifications.

Though it might not captivate thrill-seekers, its efficiency, comfort, and design render it a prime choice for city dwellers and daily commuters.



BYD

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TOP OF THE CLASS FOR ELECTRIC VEHICLES

Based in Hamilton, the Waikato Institute of Technology (Wintec) is one of the country's best-known institutes of technology.

With a reputation for delivering high-quality education across vocational-technical and professional fields, it serves around 13,000 students at any one time.

And that means staff and students are often on the go.

Wintec's main goals were to reduce its total fleet carbon emissions, while reducing the size of its fleet.

By using the vehicles due for replacement as a first round to test EV appetite and uptake, Wintec was able to assess its long-term goal of a fully electrified passenger fleet.

HOW DID WE SOLVE IT?

It contacted We.EV. By crunching the numbers to understand Wintec vehicle use and distances travelled, it designed a unique solution that would work for everyone.

The opportunity to do a pilot transition was a smart move, allowing Wintec to finance the initial investment, test uptake, and ask for feedback.

"After our initial analysis, it became clear that EVs could easily replace Wintec's Internal Combustion Engine (ICE) vehicles and provide the carbon emissions reduction they were looking for," We.EV says.

WHAT WAS THE RESULT?

We.EV recommended Wintec buy eight Hyundai Ioniq EVs and install nine chargers, complete with smart charging and dynamic loading, to help reduce local network load.

This not only optimised costs but also helped maintain vehicle battery health.

The Ioniq was chosen for its range capability, which covered 99% of all daily trips and allowed for a 92% reduction in kg of CO₂ equivalent (CO₂e) per 100km (an average of around three tonnes of CO₂e per year per vehicle).

SMARTER THAN YOUR AVERAGE EV

For Wintec, We.EV's experience mattered. "It had heard about us introducing EV fleets to other organisations and understood the importance of investing time into change management and education rather than just let people 'get on with it' with new vehicles," We.EV says.

This was essential to get positive buy-in from the widest possible audience of users.

"Though it's still early days, the results have been impressive so far – with a new 'EV steering group' driving the change and ensuring the project went smoothly."

In partnership with We.EV, Wintec will continue monitoring EV uptake within the organisation so it can help its users on the journey of transitioning to a more sustainable fleet.

"Having worked with We.EV in the past to assist in transitioning a large portion of our

fleet to electric it was a bit of a no-brainer to collaborate again for our next phase," says **Joanna Mills**, Wintec's office and vehicle services coordinator

"Unfortunately, this time it was a smaller fleet as some of our current vehicles were unable to be replaced with electric ones.

"We.EV understood our needs and were fantastic in delivering on-time to ensure we could capitalise on an external subsidy and were mindful of the many users in our organisation.

"For example, we went with tethered charger cables so that staff would never be onsite with a fleet car and no cord to re-charge. This continues to alleviate some range anxiety felt.

"We.EV were also great in supplying options and we know there are still developments we could make in becoming more sustainable in future.

"Should we be able to invest further in this area we could install solar to power chargers..."

"We consider our project a success and would recommend We.EV to any business starting the electric vehicle journey," Mills adds.

Eight new EVs saved 40 tonnes/year of CO₂, achieved a 38% reduction in addressed fleet, and 99% of trips were within the cars' range.

Contact We.EV to have an informal chat about your EV needs on www.we-ev.co.nz.



VEEJAY RAM NAKRA

YES, YOUR NEXT EV COULD BE FROM INDIA

BY RICHARD EDWARDS

Electric vehicles have proven to be a great way for markets not normally at the top of the sales charts in New Zealand to get there.

The US has been off the list for many Kiwi buyers for years but has returned with a vengeance in the form of Tesla.

China, previously known for 'cheap' cars of interesting quality, has quickly normalised in the minds of many off the back of strong electric models.

Could the same happen for India? Having visited and checked out some of India's technology, the answer is a strong 'yes'.

EVs & Beyond visited the massive automotive market with SUV-focused brand Mahindra, chiefly to check out some ICE models, but with a healthy look at their electric intentions as well.

In fact, it was hard not to take an interest, with the company very much in a shift toward sustainable propulsion and with strong technology behind it.

That technology is both home-grown – India is well known for its engineering talents, in recent weeks literally putting a rover on the dark side of the moon – and imported technology with partnerships signed with Volkswagen and BYD.

Though BYD is onboard as a battery-cell provider, the German partnership gives Mahindra access to Volkswagen's MEB electric components for its own new, purpose-built electric platform INGLO.

It's intending to see more than a million units produced, including five all-electric SUVs with MEB components.

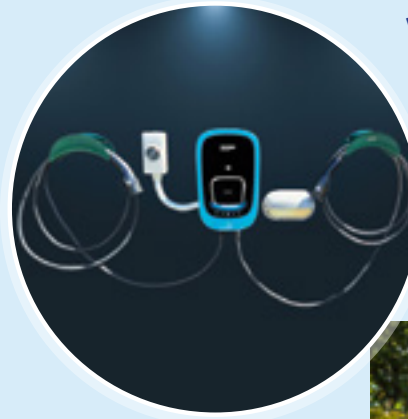
Reports suggest the INGLO platform supports 60 to 80kWh battery packs fast charged to 80% in 30 minutes through 75kW charger, and the SUVs provided in both rear-wheel and all-wheel drive.

Continued on following page...



SMART EV Chargers

ORBITIS
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VIARIS COMBI+

The ultimate EV Charging solution for Residential, Commercial and Public Environments

The VIARIS COMBI+ stands out as the most versatile model among the VIARIS EV charger range. It is compatible with all Type 2 vehicles.

With its seamless installation process and user-friendly interface, it proves to be an ideal choice for various environments, including apartment complexes, corporate vehicle fleets, shopping malls, hotel parking lots, public parking areas, and many other settings.

COMBI+ gives you the flexibility to choose from a range of outlets/hoses with power options ranging from 2x7.4 kW to 2x22 kW. The available outlets/hoses options are 5m, 10m and socket outlet.

Its SPL-ORBITIS Intelligent Charge Modulation System can communicate with 248 Orbitis EV Chargers or up to 496 electric vehicles.

Features

- Multiple outlets
- 3-year warranty
- Automatic load modulation
- Charging mode 3
- SPL Load analyser – Charge up to 496 vehicles
- Built in DC protection
- WIFI & RFID as standard (ethernet and 4G options)
- App for Android and iOS



Its load modulator monitors the installation's energy consumption and adjusts power demand to optimise the highest charge within the shortest possible period, without exceeding the supply capacity.

The charger also provides a high level of protection to the vehicle's batteries and the installation in general.

The inbuilt RDC-DD (Residual Direct Current Detection Device) means you don't need to install an expensive Type B RCCB at the switchboard, only need the standard type A saving you money.

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...Continued from previous page

From discussions on our visit to India, we understand batteries will be the durable LFP formulation.

Though there's been some discussion that Mahindra is simply taking an off-the-shelf MEB platform, we don't believe that to be the case.

It appears to be using Volkswagen motors and controllers at the core of the project, with a more varied approach to the rest of the platform.

Mahindra has the engineering capability to do the work as well. It's a leader in Formula E racing, has extensive engineering and testing facilities around Chennai and even its own battery engineering and testing facilities.

In the next two years, Mahindra is set to launch five EVs using the technology, some under its 'Born EV' programme, others independent or tied to other models.

Under consideration initially for New Zealand is a small SUV, the XUV400. It has a 40kWh battery initially, though this is set for an update.

EVs & Beyond understands from local Mahindra management that this vehicle would probably undercut current market leaders like the MG4 and BYD Atto 3.

A larger seven-seat SUV, essentially an electrified version of the XUV700 currently sold here in petrol form, would probably follow.

It would fill a gap in the market here for an electrified, value-priced, family-size seven-seat vehicle – at least until Tesla decides to send a three-row version of the Model Y here.

Additional models, including sports-coupe style SUVs have been shown under the BE brand.

More interesting for New Zealand could be that the platform for Mahindra's upcoming Global Pick-up, related to the just-launched Scorpio SUV, has been confirmed for electrification, indicating a potential electrified ute is in the offing.

Similarly, it has shown a concept of an electrified version of the Thar off-road vehicle.

Though most electrified options in the market to date have stuck with two-wheel drive, Mahindra automotive division president, **Veejay Ram Nakra**, believes all-wheel or four-wheel drive could be at the heart of the brand's products.

"I think in the EV world, all-wheel drive is what's going to be, something that a lot of customers would be looking for," Nakra says.

"We will keep the heritage of who we are



as authentic SUV players as we create our products in the EV world.

"I think one core decision that we took as an organisation is to be true to who we are, which is to make authentic SUVs. And that's what we're going to do in the ICE world and in the EV world."

Nakra believes that message is already clear in Mahindra's Born EV concepts.

Electric can be an easier path into new markets for brands, and that's something Nakra is aware of.

"Yes, we believe that may be the case, but I think there are two parts in the EV world.

"There'll be one set of consumers who wouldn't want brands that come with the legacy of ICE technology.

"But at the same time there are many people

who love iconic brands and they would want to see the Born electric versions of those iconic brands.

"I think there will be coexistence of both as we go forward.

"As far as our strategy is concerned, we're building that into the way we're looking at our portfolio of brands and products going forward."

Nakra recognises the inherent advantages electric offerings provide for brands exploring new markets.

He believes that while some consumers might gravitate towards novel brands without the baggage of ICE technology, many would still appreciate electric versions of iconic brands.

As Mahindra charts its future course, it considers this coexistence vital.

Driving Change: Meet the EV charging infrastructure experts.

Electric Vehicles are now becoming an essential part of any sustainability program. And while the vehicles are developing fast, the infrastructure that keeps them moving can be complex – and costly if you're not careful.

That's why it's worth speaking to the EV infrastructure experts now, even if your project is a little further down the road.

Backed by WEL Networks, we've been delivering energy solutions for decades. So it made sense for us to create a new dedicated division utilising some of the smartest minds in the sector.

And just as every business is unique, your charging infrastructure should align with your specific growth goals too. That's why we work with you to design a solution that not only works for your particular vision now, but can be future proofed to save you significant costs in the long-term – especially if things change.

So, if you're ready to make the smarter EV infrastructure choice and you're ready to take your sustainability goals up a gear – get in touch with the EV experts.

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THE KIA EV9 RANGE.

KIA EV9 SUV DETAILS RELEASED

Kia plans to start selling its electric seven-seat EV9 SUV in New Zealand in early October.

The EV9 will be available in three different trim levels – Light Rear-Wheel Drive Standard Range, Earth All-Wheel Drive Long Range, and GT-Line All-Wheel Drive Long Range.

Pricing starts at \$105,990 (including GST, plus on-road costs) for the Light RWD SR with a 76.1kWh lithium-ion battery.

Key specification on the Light RWD SR includes a range of active and passive safety features, LED lighting, heated front seats and steering wheel, and a 12.3-inch TFT LCD infotainment display with integrated TFT LCD cluster.

A larger 99.8kWh lithium-ion battery complemented by enhanced levels of technology, specification, and styling differences, feature in the Earth AWD LR and GT-Line AWD LR, available from \$115,990 and \$134,990 respectively.

More extensive details of features and specifications, plus driving range and recharge times, will be announced closer to the launch.



KIA'S TOP OF THE RANGE GT-LINE.

A pre-production version of car was available for viewing at selected Kia dealerships until the end of August before heading for Australia.

"The all-new Kia EV9 SUV is big, bold and exciting and will offer Kiwis a genuine option to embrace emissions-free mobility with the ability to transport as many as seven people," says Kia New Zealand managing director **Todd McDonald**.

"It...has incredible green credentials thanks to extensive use of eco materials and exemplary driving dynamics courtesy of an innovative Chassis Domain Control System".

"It has attributes which deliver safety, comfort and style, as well as a suspension and handling tune that is unique to the New Zealand and Australian markets," McDonald adds.



TESTING OF THE EDAILY CONTINUES IN MELBOURNE WITH FULL PRODUCTION MODELS EXPECTED TO ARRIVE IN NZ SOON.

IVECO UPDATES EV PLANS, LOCAL ARRIVALS EXPECTED SOON

Iveco will produce and market its heavy-duty battery electric vehicles and fuel cell electric vehicles under its own brand following the full acquisition and sole ownership of its joint venture with Nikola.

Iveco's acquisition of the German joint venture with Nikola, based in Ulm, was announced in May this year.

In a July update, the Italian truck maker saying it will now focus development on the European market while Nikola will focus its operations on North America.

Meanwhile, in New Zealand and Australia, Iveco says its alternative fuels and propulsion plans are "progressing to schedule" with the fully electric eDaily preproduction unit previewed at this year's Brisbane Truck Show.

Testing of the eDaily is continuing from Iveco's Customer and Innovation Centre (CIC) in Dandenong, Melbourne, and on local roads.

The first of five full production eDaily vehicles – a combination of van and cab chassis variants – will soon arrive in New Zealand and Australia, the company says.

The first of the all-electric vehicles will be placed in key customer fleets for evaluation

and to gain real world operator feedback in local applications and conditions.

"The additional eDaily models will also provide further opportunities for key partners to further familiarise themselves with the vehicles," Iveco says.

It says the partners include several tertiary institutions, government departments and private enterprise, who will help Iveco with training, tooling and recharging infrastructure in support of the model roll-out.

HEAVY-DUTY BEV

In the heavy-duty market, development of Iveco's electric vehicle range continues at its Ulm factory.

Its battery electric (BEV) and hydrogen fuel cell (FCEV) models feature an electric axle co-designed and produced by FPT Industrial, Iveco's specialist powertrain sister brand.

Batteries are supplied by US-based electric vehicle manufacturer Proterra, and fuel cell technology and key components by Bosch.

The vehicles are based on the Iveco S-Way platform, which has been redesigned for both fuel cell and battery propulsion with a modular architecture.

The Iveco heavy-duty BEV has a range of up to 500km and features a total battery capacity of 738kWh (9 packs) with charging power up to 350kW.

Iveco says this will enable hub-to-hub delivery applications, a wide range of regional work, and even applications requiring extended mileage with charging opportunity during mandated driver stops.

The Artic 4x2 configuration will be the first to enter the European market in the last quarter of 2023.

HEAVY-DUTY FCEV

The Iveco heavy-duty FCEV has a range of up to 800km with a refuelling time of under 20 minutes, offering a solution for long-haul commercial transport.

It can accommodate 70kg of H2 usable energy at 700-bar pressure.

The first FCEV units will be delivered in France, Switzerland, and Germany at the end of 2023, as planned in the H2Haul European project co-financed by the Clean Hydrogen Partnership.

Iveco says both its BEV and FCEV vehicles will be marketed and supported through its dealer network which includes 254 sales and service outlets around Europe.



MINI PULLS COVERS OFF ALL-ELECTRIC LINE UP

MINI has revealed a new look for its two main models – the Cooper and Countryman – and for now they are electric only.

That is not to say combustion and plug-in hybrid versions of the new models won't be launched, but with more than one in five cars from the brand sold in New Zealand electric, it shows the confidence in the energy source for the BMW-owned brand.

The fifth-generation Cooper and the revamped Countryman were unveiled tonight at the IAA International Motor Show in Munich.

The brand aims for a full transition to electric models by 2024 and is targeting New Zealand for market entry in early Q3 of that year. MINI's Electric Hatch currently holds a strong sales presence, contributing 21.5% to the company's total sales.

The fifth-generation 3-door MINI Cooper comes with multiple electric motor options. The entry-level Cooper E is outfitted with a 135 kW (181 hp) front-mounted electric motor. This draws its power from a 40.7 kWh battery pack, delivering an estimated driving range of 300 km. The Cooper E offers a torque of 290 Nm and accelerates from 0 to 100 km/h in 7.3 seconds.

Next in the lineup is the performance-oriented Cooper SE. This model features



a more potent 160 kW electric motor and is equipped with a larger, 54.2 kWh battery pack. The Cooper SE offers an impressive range of 400 km, a torque figure of 330 Nm, and a 0 to 100 km/h acceleration time of 6.7 seconds.

The vehicle's interior incorporates the new MINI Interaction Unit, a touch and voice control optimised OLED display. This unit serves as both an instrument cluster and an interactive experience center – and is also one of the first round touch screens in automotive use. High-quality Vescin artificial leather and textiles made from recycled materials line the interior.

The new MINI Countryman sees a considerable transformation, with dimensions expanded by six cm in height and 13 cm in length. Equipped with a 150 kW electric motor, the Countryman E variant is powered by an even larger 64.8 kWh battery pack, offering a range of 462 km.



The Countryman SE ALL4, with 230 kW and 494 Nm combined torque, uses the same 64.8 kWh battery to achieve a 433 km range. Both versions provide a spacious interior highlighted by woven textile surfaces and a large OLED display.

Both cars are set to arrive mid-year 2024. Local specification of trims across the all-electric MINI Cooper and all-electric MINI Countryman are yet to be confirmed.

TEN KIWI COMPANIES AND THEIR EVS

Transport produces 17% of New Zealand's emissions and offers huge opportunities for decarbonising the economy and meeting Aotearoa's climate targets.

A key recommendation in the Climate Leaders Coalition and Sustainable Business Council's joint pre-election briefing paper is to accelerate transport decarbonisation in light vehicle and freight fleets.

For many businesses, that involves moving their fleets to EVs, but for some it has meant trialling New Zealand and even world firsts.

Here are 10.

CHRISTCHURCH AIRPORT'S ROSENBAUER ELECTRIC FIRE TRUCK



On May 31, Christchurch Airport announced a partnering with Austrian manufacturer Rosenbauer International to buy the world's first electric fire truck to operate at an airport.

Current testing in Europe indicates the new vehicle could reduce fire service diesel usage by more than 75%.

The new truck is hybrid electric with further developments to run on hydrogen. The truck is expected to arrive in 2025.

PORTS OF AUCKLAND'S E-TUG



In June 2022, Ports of Auckland commissioned the world's first full sized ship-handling electric tug, Sparky.

The e-tug is just as strong as diesel equivalents and costs a third less to run.

Sparky has 80 battery racks holding 2240 batteries and is expected to do up to four shipping moves on a charge of batteries, with a two-hour recharge time.

Sparky is anticipated to save around 465 tonnes of CO₂ in diesel emissions annually.

FONTERRA'S ELECTRIC MILK TANKER



Fonterra took up New Zealand's first electric milk tanker, Milk-E, in July 2022.

It operates from Fonterra's Waitoa factory in the Waikato and is being used to learn more about heavy vehicle e-transport in a rural setting.

Since Milk-E hit the road, Fonterra has been looking at various factors including how far it can go, how easy it is to charge, milk collection, maintenance, efficiency, cost, and driver comfort and safety.

Largely, the trial has been a success so far. Milk-E takes about three hours to charge and operates on a battery swap system.

NGĀI TAHU TOURISM'S ELECTRIC JETBOAT PROTOTYPE



Ngāi Tahu Tourism, owner of Queenstown's Shotover Jet, is developing the world's first electric jetboat for tourism.

It will take several years to confirm the commercialisation of the electric prototype and Ngāi Tahu Tourism aims to convert half of its jetboats to electric during the next decade.

Meanwhile, Ngāi Tahu Tourism is seeking Commerce Commission clearance to buy the Kjet tourism jet boat business including 100% of the shares in Time Tripper Limited from Kawareau Jet Services Holdings, KJet Limited, and Time Tripper Limited.

EASTLAND PORT'S ELECTRIC WATER TRUCK

Eastland Port bought New Zealand's first electric water truck in December 2021.



The water truck is being used at the port in Gisborne to depress dust on the log yard. The truck has other benefits including being quiet and costing less to run and maintain.

MERIDIAN POWERING ELECTRIC PASSENGER FERRY



Meridian is powering the southern hemisphere's first high-speed electric passenger ferry in Wellington.

Operated by East by West Ferries, it carries commuters between Eastbourne and Wellington.

The e-ferry is faster and can carry a third more passengers than its diesel equivalents, which also burn 250,000 litres of diesel annually.

The ferry's electric motor is quieter and smoother with fewer moving parts than a diesel, meaning less maintenance and less disruption to the sailing schedule.

CHRISTCHURCH AIRPORT AND NEW ZEALAND'S FIRST ELECTRIC PLANE



Christchurch Airport is helping power New Zealand's first electric plane from Christchurch start-up ElectricAir.

The two seat Pipistrel Alpha Electro produces no exhaust emissions and uses no liquid fuels or oil.

Continued on following page...

...Continued from previous page

Typically, it flies for an hour plus reserves and takes around an hour to recharge, making it ideal for sightseeing and pilot training.

It's used as a demonstration plane, to show that electric aviation is possible.

In November 2021 the plane broke a world record by flying across Cook Strait, the world's longest flight over water by a pure electric plane.

WATERCARE'S CENTRAL INTERCEPTOR PROJECT'S ELECTRIC TIPPER TRUCKS



Watercare and construction partner Ghella Abergeldie are operating three electric tipper trucks to transport carry earth, including tunnel spoil from some of their 16 Central Interceptor water main project sites in Auckland.

The XCMG-manufactured E700 battery swap trucks can carry up to 13 tonnes of material each with an average range of 200km.

The tippers are powered by a single battery

and charging takes 90 minutes; or the batteries can be swapped in about 10 minutes.

They trucks are believed to be the first of their kind in New Zealand with battery swapping capability. They produce 79% fewer CO2 emissions compared to their diesel counterparts.

Along with reducing carbon emissions, residents living alongside some of the sites are enjoying reduced noise, with almost silent truck movements.

NZ POST'S HYUNDAI XCIENT HYDROGEN TRUCK



NZ Post began operating New Zealand's first hydrogen-powered fuel cell electric (FCEV) truck in July 2022.

Heavy trucks make up 4% of New Zealand's transport fleet but produce a quarter of all transport emissions.

Heavy transport emissions are hard to offset, as BEV alternatives can't be driven all

day over long distances, making hydrogen technology an important option for heavy freight companies.

AUCKLAND COUNCIL AND FULTON HOGAN'S ELECTRIC DIGGER



In a first for the southern hemisphere, Auckland Council's Healthy Waters Hogan's stormwater team is trialling Fulton Hogan's electric digger on maintenance operations.

The digger is excavating soil, removing debris, clearing blockages and repairing stormwater pipework damaged by floods.

Beside saving carbon emissions, the digger is reducing noise and air pollution.

Initial trials show the machine has comparable power to a diesel and battery life is being evaluated to assess its capability to sustain operations throughout a standard work day without frequent recharging.

Content supplied by the Climate Leaders Coalition and Sustainable Business Council.



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EV FAST CHARGER'S 'RETIREMENT PARTY'

A "retirement party" was held on August 26 for New Zealand's first EV DC fast charger in Alexander Street in Whangarei.

About 20 people representing many of the early adopters made the pilgrimage to pay last respects to the charger.

They included ChargeNet founder Steve West, Ecotricity founder **Mark Yates**, former Northpower chief executive **Mark Gatland**, and the Better NZ Trust chair **Kathryn Trounson**.

"Together, these early adopters had the vision to accelerate New Zealand's transition to electric transport and make Northland the EV epicentre of New Zealand," says EV advocate **Joseph Camuso** of Whangarei.

He says the retirement party had a good turnout and people are looking forward to a bright future for New Zealand.

"Alexander Street was a kick-starter to allow people and business to put their toes in the water and test drive the new EV technology, with a vision of moving Aotearoa forward to a renewable energy economy," says Camuso.

"After nearly a decade, it's time to take the training wheels off, and because Alexander Street is a working electrical substation and at times requires Northpower electricians to carry out maintenance and repairs, it's not an ideal location for 24/7 public EV charging. "The existing EV charger will be upgraded and moved to Pak'nSave Whangarei where it will be able to charge two vehicles at a time compared with one currently.

The technology has moved fast in the last decade from the early DC fast chargers limited to 50kW, soon replaced by 75kW and



REMOVING THE EV CHARGING SIGN.

150kW.

Current 300kW hyper chargers can deliver about 200km range in 15 minutes for some new EVs and can charge three cars at one time, Camuso says.

"In the not-too-distant future we'll be looking at MW charging for buses, semi-trucks, boats and aeroplanes."

While disconnecting the electric meter, Northpower's chief engineer Russell Watson noticed the Alexander Street charger provided enough New Zealand-made electricity to displace about eight million petrol driven kilometres, or about 700,000 litres of fuel equivalent to 34 dual tanker truck loads.

"As Kiwis transition to electric transport using New Zealand-made electricity versus imported fuel this will make a massive shift in balance of payments and money staying at home," says Camuso.



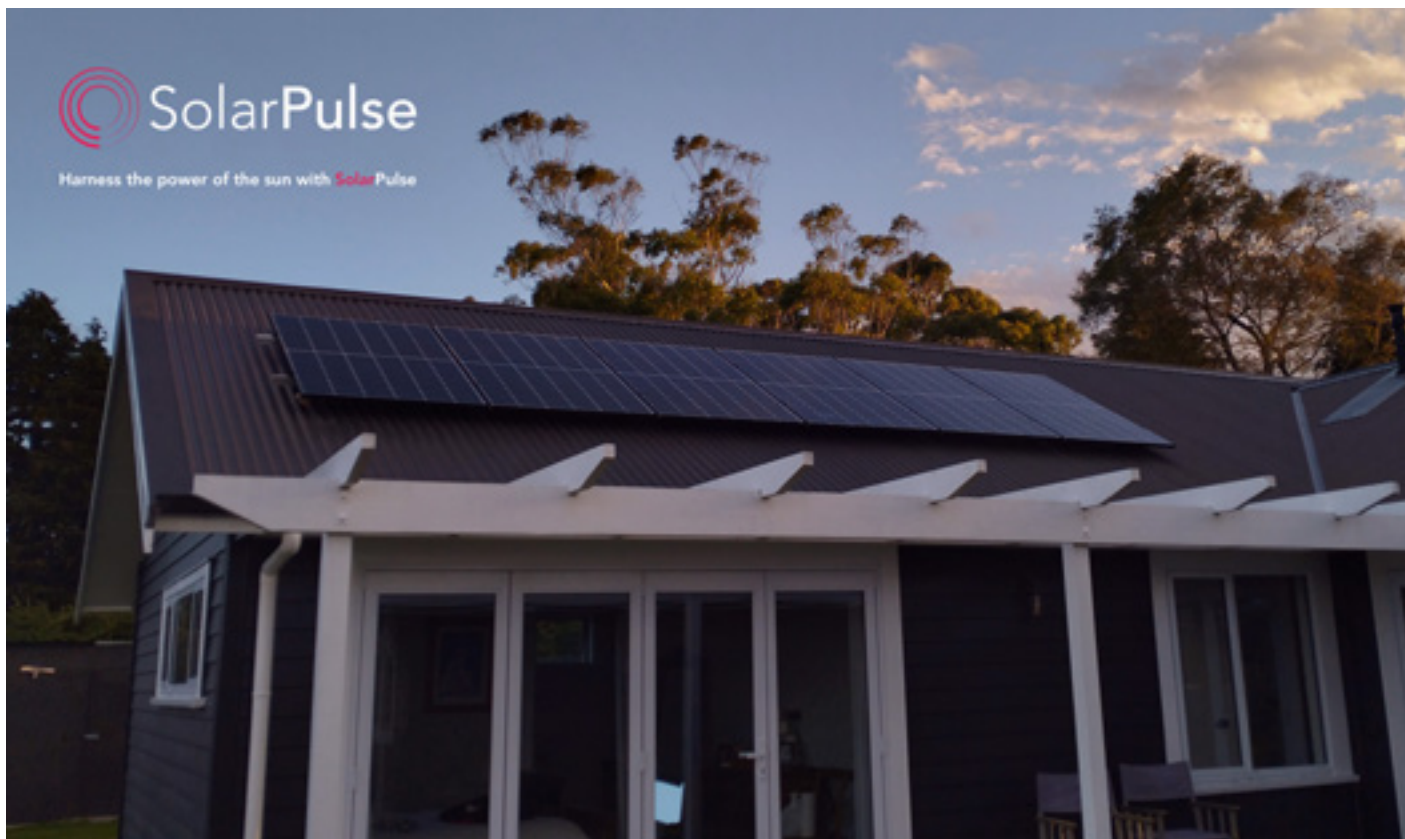
MUSEUM DESTINED? EV ADVOCATES WITH THE ALEXANDER STREET SIGN.

While the EV charger was recharging electric cars, some traveling from Auckland and beyond, the Three Sisters Coffee truck was recharging EV enthusiasts.

As Trounson said: "you can't have an EV event without good coffee."



Harness the power of the sun with SolarPulse



EMPOWERING TOMORROW WITH SOLAR SOLUTIONS: UNVEILING THE DAWN OF SOLARPULSE

SolarPulse is founded on the core principle of sustainability.

Its vision is to create a greener and brighter future for New Zealand, and it emerged from a diverse group of experienced professionals in electrical engineering, renewable energy, project management, and business development.

SolarPulse is designed to help families and businesses move towards a sustainable future, with its employees having extensive knowledge of the solar industry and more than 20 years' experience.

The company offers a comprehensive range of services tailored to meet solar installation needs.

"As electric vehicle (EV) ownership continues to surge, aligning with sustainable energy solutions has never been more prudent," says SolarPulse.

"By seamlessly integrating solar power into your energy ecosystem, you can significantly reduce your power bills while contributing to a cleaner planet."

"Our cutting-edge solar solutions are tailored to complement your EV charging needs, allowing you to harness the sun's abundant energy to power not just your home, but also your eco-friendly transportation."

A free initial solar consultation can be

provided by SolarPulse which designs solar installations that optimise energy generation, reduce costs, and leave a lasting positive impact on both the business and the environment.

Its experts start with consultation, guiding customers through solar system design, efficient procurement, hassle-free installation, and provide post-installation maintenance, and the health and safety checks required for compliance.

"We conduct a comprehensive assessment of your specific energy requirements, available space, and various other factors, enabling us to meticulously design an optimal solar system tailored to your business's needs, ultimately maximising energy production and delivering substantial cost savings," says SolarPulse.

Brand reputation can be enhanced with such sustainable practices for any business in any industry, it adds.

And by generating electricity from the sun, businesses can lower their reliance on traditional energy sources and potentially save on their utility bills while avoiding fluctuating rates and reducing overheads.

SolarPulse says installation time for a solar system varies depending on its complexity and size, as well as the availability of local permits and inspections.

"In general, a residential solar installation takes one to three days, whereas commercial solar may take longer."

Solar panels require little maintenance beyond regular cleaning to remove dirt and debris – probably every two or three years – and offer significant financial benefits, including reduced monthly energy bills, increased property value, and a high return on investment.

The cost of a solar system depends on its size, the type of panels used, and the complexity of the installation.

"However, the cost of solar has decreased significantly in recent years, making it more affordable..."

SolarPulse's mission statement is that by fostering transparency in its operations and embracing continuous innovation, the company aims to revolutionise the solar energy landscape and inspire positive change in communities.

"We strive to be at the forefront of solar technology and innovation, constantly exploring new ideas and advancements to maximise the efficiency and effectiveness of solar power, accelerating the transition to a greener and brighter future."


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

FIND YOUR NEW EVS HERE!

| BRAND | MODEL | PRICE | WLTP RANGE | BATTERY SIZE | AC CHARGING SPEED | DC CHARGING SPEED | TOW RATING |
|-----------|---|--------------|------------|--------------|-------------------|-------------------|------------|
| AUDI | Q4 40 e-tron Advanced | \$99,990.00 | 520 km | 82 kWh | 11 kW | 125 kW | N/A |
| AUDI | Q4 40 e-tron Sportback Advanced | \$103,990.00 | 520 km | 82 kWh | 11 kW | 125 kW | N/A |
| AUDI | Q4 50 e-tron quattro S line | \$126,990.00 | 490 km | 77 kWh | 11 kW | 125 kW | N/A |
| AUDI | Q4 50 e-tron Sportback quattro S line | \$130,990.00 | 490 km | 77 kWh | 11 kW | 125 kW | N/A |
| AUDI | e-tron 55 quattro | \$151,900.00 | 417 km | 95 kWh | 22 kW | 150 kW | 1,800 kg |
| AUDI | e-tron 55 quattro advanced | \$160,400.00 | 417 km | 95 kWh | 22 kW | 150 kW | 1,800 kg |
| AUDI | e-tron Sportback 55 S line | \$171,000.00 | 446 km | 95 kWh | 22 kW | 150 kW | 1,800 kg |
| AUDI | e-tron S Sportback | \$190,400.00 | 365 km | 95 kWh | 22 kW | 150 kW | 1,800 kg |
| AUDI | e-tron GT quattro | \$197,090.00 | 488 km | 93.4 kWh | 11 kW | 270 kW | N/A |
| AUDI | RS e-tron GT | \$277,090.00 | 472 km | 93.4 kWh | 11 kW | 270 kW | N/A |
| BYD | Atto 3 Standard | \$58,990.00 | 345km | 50kWh | N/A | 70kW | 750 kg |
| BYD | Atto 3 Extended | \$62,490.00 | 420km | 60kWh | N/A | 80kW | 750 kg |
| BYD | Atto 3 Tachyon | \$70,490.00 | 420km | 420 kWh | N/A | N/A | 750 kg |
| BMW | i3 120Ah | \$78,700.00 | 260 km | 42.2 kWh | 11 kW | 50 kW | 0kg |
| BMW | i3s 120Ah | \$87,500.00 | 245 km | 42.2 kWh | 11 kW | 50 kW | 0kg |
| BMW | i4 eDrive40 | \$109,900.00 | 590 km | 81 kWh | 11 kW | 200 kW | N/A |
| BMW | i4 M50 | \$137,900.00 | 510 km | 81 kWh | 11 kW | 200 kW | N/A |
| BMW | i7 xDrive60 | \$276,900.00 | 510 km | 101.7 kWh | 11 kW | 200 kW | 750 kg |
| BMW | iX1 xDrive30 | \$95,500.00 | 355 km | 64.7 kWh | 11 kW | N/A | 750 kg |
| BMW | iX3 Inspiring | \$118,900.00 | 460 km | 80 kWh | 11 kW | 150 kW | N/A |
| BMW | iX3 impressive | \$129,300.00 | 460 km | 80 kWh | 11 kW | 150 kW | N/A |
| BMW | iX xDrive40 | \$169,600.00 | 425 km | 76.6 kWh | 11 kW | 150 kW | 2,500 kg |
| BMW | iX xDrive50 | \$204,800.00 | 630 km | 111.5 kWh | 11 kW | 200 kW | 2,500 kg |
| BMW | iX M60 | \$238,900.00 | 485 km | 105.2 kWh | 11 kW | N/A | 2,500 kg |
| FIAT | 500e Pop | \$59,990.00 | 320 km | 42 kWh | 11 kW | 85 kW | N/A |
| FIAT | 500e Icon | \$64,990.00 | 320 km | 42 kWh | 11 kW | 85 kW | N/A |
| FORD | Mach-E RWD 75.7kWh | \$79,990.00 | 450 km | 75.7 kWh | 11 kW | 150 kW | N/A |
| FORD | Mach-E AWD 98.7kWh | \$109,990.00 | 610 km | 98.7 kWh | 11 kW | 150 kW | N/A |
| FORD | Mach-E GT AWD 98.7kWh | \$124,990.00 | 500 km | 98.7 kWh | 11 kW | 150 kW | N/A |
| GWM/HAVAL | Ora Standard Range | \$49,990.00 | 310km | 48kWh | N/A | N/A | N/A |
| GWM/HAVAL | Ora Long Range | \$55,990.00 | 420km | 63kWh | N/A | N/A | N/A |
| GWM/HAVAL | Ora GT | \$60,900.00 | 420km | 63kWh | N/A | N/A | N/A |
| HYUNDAI | Ioniq EV 38.3kWh | \$65,990.00 | 311 km | 38.3 kWh | 7.2 kW | 50 kW | 0kg |
| HYUNDAI | Ioniq EV Elite 38.3kWh | \$71,990.00 | 311 km | 38.3 kWh | 7.2 kW | 50 kW | 0kg |
| HYUNDAI | Ioniq 5 58kWh | \$79,990.00 | 384 km | 58 kWh | 11 kW | 220 kW | N/A |
| HYUNDAI | Ioniq 5 72.6kWh | \$89,990.00 | 480 km | 72.6 kWh | 11 kW | 220 kW | N/A |
| HYUNDAI | Ioniq 5 AWD 72.6kWh | \$97,990.00 | 460 km | 72.6 kWh | 11 kW | 220 kW | N/A |
| HYUNDAI | Ioniq 5 Elite 72.6kWh | \$97,990.00 | 480 km | 72.6 kWh | 11 kW | 220 kW | N/A |
| HYUNDAI | Ioniq 5 Limited Vision Roof AWD 72.6kWh | \$117,990.00 | 460 km | 72.6 kWh | 11 kW | 220 kW | N/A |
| HYUNDAI | Kona Electric 39.2kWh | \$69,990.00 | 305 km | 39.2 kWh | 7.2 kW | 100 kW | N/A |
| HYUNDAI | Kona Electric Elite 39.2kWh | \$77,990.00 | 305 km | 39.2 kWh | 7.2 kW | 100 kW | N/A |
| HYUNDAI | Kona Electric 64.0kWh | \$79,990.00 | 484 km | 64.0 kWh | 7.2 kW | 100 kW | N/A |
| HYUNDAI | Kona Electric Elite 64.0kWh | \$88,990.00 | 484 km | 64.0 kWh | 7.2 kW | 100 kW | N/A |
| JAGUAR | I-Pace SE | \$159,900.00 | 470 km | 90 kWh | 7 kW | 100 kW | 750 kg |
| JAGUAR | I-Pace HSE | \$169,900.00 | 470 km | 90 kWh | 7 kW | 100 kW | 750 kg |

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BEV



RANGE

420km

PRICE

~~was \$59,990~~
\$51,365

MG ZS EV

BEV



RANGE


320km

PRICE

\$45,365

TESLA 3

BEV



RANGE

460km

PRICE

\$61,365

FIND YOUR NEW EVS HERE!

| BRAND | MODEL | PRICE | WLTP RANGE | BATTERY SIZE | AC CHARGING SPEED | DC CHARGING SPEED | TOW RATING |
|---------------|------------------------------------|--------------|------------|--------------|-------------------|-------------------|------------|
| JAGUAR | I-Pace Innovation Edition | \$169,900.00 | 470 km | 90 kWh | 7 kW | 100 kW | 750 kg |
| KIA | EV6 Air | \$76,990.00 | 400 km | 58 kWh | 11 kW | 80 kW | N/A |
| KIA | EV6 Air Long Range | \$79,990.00 | 510 km | 77.4 kWh | 11 kW | 239 kW | N/A |
| KIA | EV6 Earth AWD Long Range | \$99,990.00 | 475 km | 77.4 kWh | 11 kW | 239 kW | N/A |
| KIA | EV6 GT-Line AWD Long Range | \$111,990.00 | 475 km | 77.4 kWh | 11 kW | 239 kW | N/A |
| KIA | EV6 GT-Line AWD Long Range sunroof | \$114,990.00 | 475 km | 77.4 kWh | 11 kW | 239 kW | N/A |
| KIA | EV6 GT AWD | \$139,990.00 | 370 km | 74.0 kWh | N/A | N/A | N/A |
| KIA | 2022 Niro EV Light 64kW | \$68,990.00 | 455 km | 64 kWh | 7.2 kW | 100 kW | N/A |
| KIA | 2022 Niro EV Water 64kW | \$75,990.00 | 455 km | 64 kWh | 7.2 kW | 100 kW | N/A |
| KIA | Niro EV EX | \$77,990.00 | 455 km | 64 kWh | 7.2 kW | 100 kW | N/A |
| KIA | Niro EV SX | \$80,990.00 | 455 km | 64 kWh | 7.2 kW | 100 kW | N/A |
| KIA | Niro EV Premium | \$85,990.00 | 455 km | 64 kWh | 7.2 kW | 100 kW | N/A |
| LEXUS | UX 300e | \$79,900.00 | 315 km | 54.3 kWh | 6.6 kW | 50 kW | N/A |
| LDV | eT60 | \$79,990.00 | 325km | 88.55 kwh | N/A | 130kW | 1,500kg |
| LDV | Mifa 9 | \$79,990.00 | 440km | 90 kWh | 11 kW | 180kW | 1,000kg |
| MAZDA | MX-30 BEV | \$74,990.00 | 200 km | 35.5 kWh | 6.6 kW | 50 kW | N/A |
| MERCEDES-BENZ | EQA 250 | \$90,000.00 | 426 km | 66.5 kWh | 11 kW | 100 kW | N/A |
| MERCEDES-BENZ | EQC 400 4MATIC Sport | \$151,300.00 | 417 km | 80 kWh | 7.4 kW | 110 kW | N/A |
| MG MOTORS | MG ZS Excite | \$49,990.00 | 263 km | 44.5 kWh | 6.6 kW | 85 kW | N/A |
| MG MOTORS | MG ZS Essence | \$53,990.00 | 263 km | 44.5 kWh | 6.6 kW | 85 kW | N/A |
| MINI | Mini Cooper SE Classic | \$61,340.00 | 234 km | 32.6 kWh | 11 kW | 50 kW | N/A |
| MINI | Mini Cooper SE Mini Yours | \$68,580.00 | 234 km | 32.6 kWh | 11 kW | 50 kW | N/A |
| MINI | Mini Cooper SE Resolute | \$68,930.00 | 234 km | 32.6 kWh | 11 kW | 50 kW | N/A |
| MINI | Mini Cooper SE The | \$67,100.00 | 234 km | 32.6 kWh | 11 kW | 50 kW | N/A |
| MINI | Mini Cooper SE The Resolute | \$67,600.00 | 234 km | 32.6 kWh | 11 kW | 50 kW | N/A |
| NISSAN | Leaf 40kW | \$61,990.00 | 270 km | 40 kWh | 6.6 kW | 50 kW | N/A |
| NISSAN | Leaf 39kW | \$62,990.00 | 270 km | 39 kWh | 6.6 kW | 50 kW | N/A |
| NISSAN | Leaf 62kW | \$69,990.00 | 385 km | 62 kWh | 6.6 kW | 100 kW | N/A |
| NISSAN | Leaf 59kW | \$71,490.00 | 385 km | 59 kWh | 6.6 kW | 100 kW | N/A |
| NISSAN | Leaf 40kW | \$61,990.00 | 270 km | 40 kWh | 6.6 kW | 50 kW | N/A |
| NISSAN | Leaf 39kW | \$62,990.00 | 270 km | 39 kWh | 6.6 kW | 50 kW | N/A |
| NISSAN | Leaf 62kW | \$69,990.00 | 385 km | 62 kWh | 6.6 kW | 100 kW | N/A |
| NISSAN | Leaf 59kW | \$71,490.00 | 385 km | 59 kWh | 6.6 kW | 100 kW | N/A |
| OPEL | Mokka-E | \$69,990.00 | 322 km | 50 kWh | 11 kW | 100 kW | N/A |
| OPEL | Corsa-E | \$59,990.00 | 337 km | 50 kWh | 11 kW | 100 kW | N/A |
| PEUGEOT | e-208 GT | \$67,990.00 | 340 km | 50 kWh | 7.4 kW | 100 kW | N/A |
| PEUGEOT | e-2008 GT | \$75,990.00 | 320 km | 50 kWh | 7.4 kW | 100 kW | N/A |
| POLESTAR | Polestar 2 Standard Range | \$76,900.00 | 440 km | 64 kWh | 11 kW | 150 kW | N/A |
| POLESTAR | Polestar 2 Long Range | \$86,900.00 | 540 km | 78 kWh | 11 kW | 150 kW | N/A |
| POLESTAR | Polestar 2 Long Range Dual Motor | \$104,900.00 | 480 km | 78 kWh | 11 kW | 150 kW | N/A |
| PORSCHE | Taycan | \$183,300.00 | 431 km | 79.2 kWh | 22 kW | 270 kW | N/A |
| PORSCHE | Taycan 4S | \$214,400.00 | 484 km | 93.4 kWh | 22 kW | 270 kW | N/A |
| PORSCHE | Taycan GTS | \$255,800.00 | 509 km | 93.4 kWh | 22 kW | 270 kW | N/A |



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CAR OF THE YEAR
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CLASS WINNER ELECTRIC
MG ZS EV

FIND YOUR NEW EVS HERE!

| BRAND | MODEL | PRICE | WLTP RANGE | BATTERY SIZE | AC CHARGING SPEED | DC CHARGING SPEED | TOW RATING |
|------------|----------------------------|--------------|------------|--------------|-------------------|-------------------|------------|
| PORSCHE | Taycan Turbo | \$304,300.00 | 453 km | 93.4 kWh | 22 kW | 270 kW | N/A |
| PORSCHE | Taycan Turbo S | \$381,900.00 | 412 km | 93.4 kWh | 22 kW | 270 kW | N/A |
| PORSCHE | Taycan 4 Cross Turismo | \$203,100.00 | 456 km | 93.4 kWh | 22 kW | 270 kW | N/A |
| PORSCHE | Taycan 4S Cross Turismo | \$224,500.00 | 484 km | 93.4 kWh | 22 kW | 270 kW | N/A |
| PORSCHE | Taycan Turbo Cross Turismo | \$306,900.00 | 452 km | 93.4 kWh | 22 kW | 270 kW | N/A |
| SKODA | Enyaq iV 80 | \$92,990.00 | 520 km | 77 kWh | 11 kW | 125 kW | 1,200 kg |
| SKODA | Enyaq iV 80 Sportline Max | \$97,990.00 | 520 km | 77 kWh | 11 kW | 125 kW | 1,200 kg |
| SSANGYONG | Korando e-Motion | \$59,990.00 | 420 km | 61.9 kWh | 7.2 kW | 90 kW | N/A |
| TESLA | Model S Long Range | \$159,990.00 | 663 km | 100 kWh | 11.5 kW | 250 kW | N/A |
| TESLA | Model S Plaid | \$224,990.00 | 628 km | 100 kWh | 11.5 kW | 250 kW | N/A |
| TESLA | Model 3 Standard Range | \$74,900.00 | 448 km | 54 kWh | 11 kW | 170 kW | N/A |
| TESLA | Model 3 Long Range AWD | \$91,920.00 | 568 km | 82 kWh | 11 kW | 250 kW | N/A |
| TESLA | Model 3 Performance AWD | \$103,900.00 | 567 km | 82 kWh | 11 kW | 250 kW | N/A |
| TESLA | Model Y Standard | \$76,200.00 | 505 km | 60 kWh | 11 kW | 170 kW | N/A |
| TESLA | Model Y Performance | \$108,900.00 | 488 km | 82 kWh | 11 kW | 250 kW | N/A |
| TESLA | Model X Long Range | \$174,990.00 | 580 km | 100 kWh | 16.5 kW | 250 kW | N/A |
| TESLA | Model X Plaid | \$209,990.00 | 547 km | 100 kWh | 16.5 kW | 250 kW | N/A |
| VOLVO | XC40 Recharge P6 | \$83,900.00 | 418 km | 69 kWh | 11 kW | 150 kW | N/A |
| VOLVO | XC40 Recharge P8 | \$97,900.00 | 418 km | 78 kWh | 11 kW | 150 kW | N/A |
| VOLVO | C40 Recharge P6 | \$85,900.00 | 418 km | 69 kWh | 11 kW | 150 kW | N/A |
| VOLVO | C40 Recharge P8 | \$100,900.00 | 418 km | 78 kWh | 11 kW | 150 kW | N/A |
| VOLKSWAGEN | ID.4 Pro | \$79,990.00 | 520 km | 77 kWh | 11 kW | 125 kW | N/A |
| VOLKSWAGEN | ID.4 Pro+ | \$89,990.00 | 520 km | 77 kWh | 11 kW | 125 kW | N/A |
| VOLKSWAGEN | ID.5 Pro | \$85,490.00 | 520 km | 77 kWh | 11 kW | 125 kW | N/A |
| VOLKSWAGEN | ID.5 Pro+ | \$94,490.00 | 520 km | 77 kWh | 11 kW | 125 kW | N/A |

EV FRANCHISE DEALER LIST

NAME

AUDI / HYUNDAI / VOLKSWAGEN

Farmer Auto Village

07 578 6017

info@farmerautovillage.co.nz

116 Hewletts Road, Mt Maunganui

Mt Maunganui

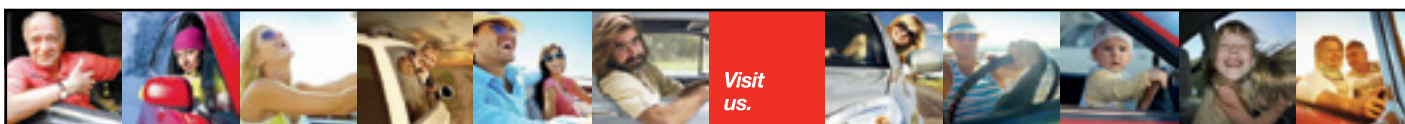
HYUNDAI

Energy Motors

06 759 8070 | hyundai@energymotors.co.nz

Cnr Gill & Eliot Streets, New Plymouth

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|--------------------------------|--------------------------|--|---------------------------------|---------------------------------|
| MAKE | MODEL | TYPE | PRICING RRP <small>EST.</small> | APPROX RANGE <small>KMS</small> |
| 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 |
| Kia | Soul First Edition 64kWh | BEV | \$75,990 | 450km |
| Honda | E Advance | BEV | \$69,990 | 220km |
| Peugeot | e-2008 GT 50kWh | BEV | \$75,880 | 320km |
| | e-2008 Allure 50kWh | BEV | \$70,880 | 320km |
| Vauxhall | Corsa Elite 50kWh | BEV | \$70,880 | 320km |
| Volkswagen | iD3 1st Edition 62kWh | BEV | \$79,990 | 330km |
| BEV - Battery Electric Vehicle | | PHEV - Plug-in Hybrid Electric Vehicle | | |

| USED DEALERS LIST | |
|---|--------------|
| NAME | CITY |
| Autolink Cars 09 378 9090 autolinkcarsltd@gmail.com BMW i3, Nissan Leaf, Volkswagen e-Golf | Auckland |
| GVI Electric 09 216 7106 ev@gvi.kiwi Nissan Leaf, Volkswagen ID 3, Kia Soul, Vauxhall Corsa, Peugeot e-2008 Allure | Auckland |
| Auckland City Electric Vehicles 0800 248 9387 www.acev.co.nz BMW i3, Nissan Leaf, Volkswagen e-Golf, Mitsubishi Outlander PHEV | Auckland |
| Volt Vehicles 0800 PH VOLY 022 480 0722 david@voltvehicles.co.nz Nissan Leaf, Mitsubishi Outlander PHEV | Auckland |
| Hamilton EV 021 959 400 nicholas@hamiltonev.co.nz Nissan Leaf, Nissan eNV200 | Hamilton |
| Drive EV 027 521 0429 07 378 0082 steve@driveev.co.nz MG MG-5 Excite, Nissan Leaf, Vauxhall Mokka-e Elite, Vauxhall Corsa-e, Volkswagen ID 3, Kia Soul, Honda E | Taupo |
| Coventry Cars Hybrid & Electric 04 384 4536 salesteam@coventrycars.co.nz Nissan Leaf, Mitsubishi Outlander PHEV, Nissan eNV200 | Wellington |
| Harwood Cars 027 492 2218 www.harwoodcars.com | Auckland |
| EV City 03 972 5505 contact@evcity.kiwi BMW i3, Nissan Leaf, Nissan eNV200, Mitsubishi Outlander PHEV | Christchurch |
| Metro Christchurch 03 348 5855 chrisn@metrochch.co.nz Nissan Leaf | Christchurch |
| The Electric Motor Vehicle Company 03 218 7130 027 515 8799 info@electricmv.co.nz Nissan Leaf, Nissan eNV200, Mitsubishi Outlander PHEV | Invercargill |

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NISSAN LEAF GEN 2 40KWH

The second generation Nissan Leaf (Gen 2) was launched in Japan in 2017 with a 40kWh battery pack and a 110kW/320Nm powertrain.

The Gen 2 Nissan Leaf is more conventionally styled than its predecessor but it still has a distinct crossover look and shares many design cues with its hybrid and fully ICE Nissan siblings.

It has also become a popular used import into the New Zealand market, positioned as a spacious city runabout for up to five people that offers up to 270km of range (WLTP).

A 62kWh battery version was recently launched as part of a global update for the Gen 2 Leaf which reputedly offers up to 385km of range (WLTP) and is known as the Leaf e+.



2020 PEUGEOT E-2008 GT



2020 HONDA E ADVANCE



2020 KIA SOUL



2020 VAUXHALL CORSA ELITE



2020 VOLKSWAGEN ID3



2012 NISSAN LEAF



OPEL MOKKA



NISSAN ENV200



VOLKSWAGEN GOLF



VOLKSWAGEN ID4



BYD E6



MITSUBISHI IMIEV

LITHIUM-ION BATTERIES AND SHARKS ATTACKS

BY JONNO LEONARD

Not a headline for an article as you might expect, but there are some parallels, so read on.

Crackling like small-arms gunfire, miniature rockets blew fragments of sizzling, fizzing casings high into the evening sky.

An enemy contact in a war zone? No, it was a couple of scooter technicians experimenting with lithium-ion battery destruction through thermal runaway.

Quite the show it was. Thermal runaway is where the chemical composition of the battery has broken down internally, and the elements present are mixing and combusting.

There's no stopping it, as it's not a traditional fire and spraying water will make it worse rather than better in many cases.

With Lithium-ion batteries, now omnipresent in vacuum cleaners, power tools, phones, and of course e-bikes and e-scooters, you're dealing with potentially dangerous items.

But the keyword here is potentially, and they can and usually do function in a very safe and benign manner.

Let's see how we can keep them that way.

The pivotal question is quality. Li-ion batteries contain all the elements required for self-combustion when unstable, and high-quality construction is essential to ensure that stability.

Quality brands use quality battery cells, and the batteries themselves don't come cheap (for a good one).

So, only buy a known international brand, sold internationally and certified to international safety standards, meaning the battery, and the charger, have been tested and deemed safe.

BATTERY CARE

Li-ion batteries don't enjoy stress.

Overcharging stresses them. Fully discharging them stresses them.

They're happiest in the middle, above 20% charged and below 80% charged.

That's why your new product doesn't arrive fully charged, and why you should store any battery-powered product at no more than 80% charge for a prolonged period.

Ideally, set a timer on your charger to turn off before the battery reaches 100% charge. A charger should turn itself off when a battery reaches full charge, but by pre-empting that at 80 to 90% you'll extend massively the life of your li-ion battery.

We expect soon to see chargers with the onboard option to perform an 80% charge. Not yet, though, so use a socket timer. Your battery will thank you for it.

CHARGER USE

You'll notice your battery charger gets warm as it completes its charge cycle up to 100% charged.

This is because it is overcoming the resistance in the battery to jamming that last 10% of charge into those nearly full cells.

This is where the most stress on the cells and the highest risk occur.

Of course, 99.99% of batteries will still perform this function safely. It's what they're tested to do, and your charger contains an off switch to turn off when the battery communicates it's fully charged.

But it's also where the highest degradation of the cells occurs and switching off before the 100% charge is reached will extend the battery's lifespan, as well as reduce charging risk.

OTHER MEASURES

Charge in a well-ventilated area and on a hard, conductive surface (not a carpet or rug).

Charge away from exits (you don't want to be trapped in the event of a fire) and charge where and when you can remain aware of the charging procedure.

Switch your charger off when charging is complete, and always use the correct charger for your device.

The charger is matched to the battery voltage. A mismatched voltage will destabilise the battery cells.

Always buy the manufacturer's genuine original charger if you need a replacement.

SPOTTING ISSUES

Batteries can be damaged by water, shock/impact, and poor charging practices with incorrect chargers.

Look out for the signs and don't charge if you notice any of these.

Beware of a misshaped battery. Swelling and expansion of the cells is an obvious sign of damage.

Don't charge this battery, it is unsafe and unstable. The battery may well be inside a case, however, so this may not be obvious immediately.

Funny smells. If you notice an unusual smell, that could be a lithium leak. The battery cells are damaged.

Smoke. Unsurprisingly this is a dead giveaway that a battery has entered



'thermal runaway', where it's self-combusting.

If it's safe to do so, move the device quickly away from any living areas into an open space where the reaction can complete without causing damage. Stay well back.

Noises such as hissing/popping coming from the device (almost always accompanied by smoke and smell).

This reaction is at the 'about to blow' phase and is very dangerous. A serious malfunction has occurred, and you should get far away immediately.

SHARK ATTACK?

How many people are in fear of a shark attack? A great many, right.

It's terrifying, deadly, and grisly, the stuff of nightmares.

But how many shark attacks occur? Well, in 2002 it was 57 globally.

So, the chance of it being you is infinitesimally small, and a road accident is far more likely.

Lithium battery fires require the same level-headed approach, and perhaps a similar level of sensible caution.

Follow the do's and don'ts, and almost 100% of the time you can operate in complete safety.

Multiple millions of li-ion batteries are on charge right now in the world, and 99.999% will be perfectly fine.

So, much like shark warnings, listen to the lifeguards, read the manuals, follow the instructions, and go about your day.



E-SCOOTERS NO LONGER BOYS' TOYS

Electric scooters have become widely adopted for mainstream transport and are no longer considered niche “boys’ toys”, says e-scooter hire company Neuron Mobility.

That conclusion is drawn from a study, Bridging the E-scooter Gender Gap: Enhancing Adoption and Safety, which surveyed more than 10,000 Neuron riders.

Research found that 51% of New Zealand riders use e-scooters to commute to work and study. That’s higher than any other country. Globally, only one third (33%) of trips are for commuting.

New Zealand’s rider gender gap is slightly larger than the global average with 37% female (compared with 40% globally), 60% male (59% globally), and 3% other (or prefer not to say) compared to 1% “other” globally.

Young Kiwi riders (18 to 34 years) account for 70% of female riders versus 51% of males – the highest percentage of younger female riders across all other countries globally, says Neuron.

Other key drivers and factors affecting adoption are city infrastructure, including providing protected lanes, running 24-hour services, the unequal distribution of domestic tasks between males and females, and the suitability of women’s clothing and footwear.

The report suggests how cities and micromobility operators can make e-scooter programmes safer and more

inclusive.

It highlights how significant advances in e-scooter design, construction, and regulation have transformed e-scooters from being regarded as niche “boys’ toys” into a mainstream transport option.

However, the report also reveals that globally there remains a gender gap in e-scooter ridership.

The most prevalent age range for all riders globally is between 25 and 34.

There are very few riders over the age of 65, and of the older users males (3%) were three times as likely to ride than females.

Various factors have contributed to the gender gap including the stark differences in risk tolerance, with female riders prioritising safety to a greater extent.

Males are far more interested in the speed and handling of the e-scooters.

Early adoption of private e-scooters was led predominantly by younger men, and this accelerated their uptake of rental e-scooters.

A Neuron global focus group has identified that 73% of riders called for cities to provide more protected lanes, saying they’d increase ridership significantly.

Workers in the hospitality and healthcare sectors claim to use e-scooters during off-peak times when public transport may be less frequent and taxis and rideshare services more expensive.

Riders who travel at night were found to be very reliant on e-scooters, while women also indicated that e-scooters were potentially safer when travelling alone at night, improving their sense of personal security compared to walking or public transport.

This suggests operating 24-hour services to support the nighttime economy, shift workers and personal security at night would also increase e-scooter adoption.

That’s been recognised by Dunedin which changed to 24-hour services in March 2022 and Palmerston North which did so in July 2023.

Many women say e-scooters are less suitable for tasks involving caring for young family members and for weekly supermarket shopping.

Some women also say their clothing choices, such as high-heel shoes, could make e-scooters impractical for certain trips.

“Although there’s still a gender gap in terms of riders, it’s clear more New Zealand women than ever before are seeing e-scooters as a great way to travel,” says Neuron Australia and New Zealand head Jayden Bryant.

“The research will help us as well as policymakers, urban planners and city transport teams create more inclusive and safer e-scooter programmes for all.”

WASTE MANAGEMENT ORDERS VOLVO FE ELECTRIC



Volvo Trucks New Zealand has received its first electric truck order from key customer Waste Management NZ.

The Volvo FE Electric 6x2 rigid is a three-axle truck with a gross vehicle weight of up to 26 tonnes and a range of up to 300km.

National sales manager **Scott Robinson** says it's an exciting development with a "long-standing customer with close relationships across our group".

"It's an honour to be selected by Waste Management to supply a full electric solution."

The model comes to New Zealand after many hours of research, development, and testing in Europe.

"On the back of our very successful trial of the FL model in New Zealand we didn't see the need for further testing on the FE," Robinson says.

In December last year, Volvo Trucks launched the medium-duty FL Electric as part of a six-month trial with Fonterra based in Auckland.

That model was a 4x2 rigid with a gross vehicle weight of 16,000kg and a range of up to 250km.



"The trial was very successful," Robinson says. "Earlier in the trial drivers did experience range anxiety, being new to the electric era."

"After a few weeks and them becoming familiar with the truck this disappeared as they became very confident with the high accuracy of the traction battery range gauge."

Meanwhile, as the FE model is put to great use in the waste industry, its applications are broad, Robinson says.

"It can be used for a multiple of tasks from curtainsider to a concrete mixer. It's suitable for anyone wanting a higher GVM

than the FL model."

EVs and Beyond asked if there have been any further Volvo electric truck orders and Robinson says the company is dealing with "multiple EV enquiries across the range".

In overseas markets, Volvo Trucks recently signed a letter of intent to sell 1000 electric trucks between now and 2030 to Holcim, one of the world's largest building material providers.

Volvo also started series production of its heavy-duty FH, FM, and FMX electric models in September last year with global deliveries set to ramp up.

EV GLOBAL ADVANCES

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

MG4 ELECTRIC SCORES TOP SAFETY RATING

A five-star safety rating for the MG4 Electric two-wheel drive variants has been awarded by the Australasian New Car Assessment Program (ANCAP).

The EV did well across each aspect of ANCAP assessment under the 2020-2022 rating criteria.

The MG 4 Electric is fitted with a range of collision avoidance technologies, including autonomous emergency braking, active lane support, and driver fatigue monitoring.



JODIE KIDD PLAYS WITH 1M VOLTS IN KIA EV9 LAUNCH

Model and car enthusiast **Jodie Kidd** shot lightning bolts from her hands as part of a stunt coinciding with the Kia EV9 six- or seven-seat SUV launch.

The car is one of 15 fully electric models Kia is launching globally by 2027.

The EV9 features ultra-rapid charging, long range, and vehicle-to-load (V2L) technology.

The launch comes as new research among 2000 adults, commissioned by Kia, reveals more than 26% of parents have been encouraged to buy an EV by their children.

Another 36% say it's through children learning about environmental issues at school, and 35% say their children want an EV as they are 'cool'.

A third believe children have been influenced by their favourite TV shows and YouTubers and 87% of parents surveyed say they've considered buying an EV because of these conversations.



PROTON BATTERY UNDER DEVELOPMENT

A "proton battery" that may be developed to power homes, vehicles and devices has been patented by Melbourne's RMIT University.

The cheap, rechargeable battery uses a carbon electrode to store hydrogen that's been split from water, and then works as a hydrogen fuel cell to produce electricity.

The RMIT team is embarking on a two-year collaboration with Italian-based international automotive component supplier Eldor Corporation to develop the technology.



LOW-COST EV WITH PORTABLE BATTERIES PLANNED

Switzerland's TERA Technologies aims to ramp up its low-cost EV production in Q4 of 2023 and deliver 55 limited edition MiracleONEs.

Using an upcycled Citroen platform, the MiracleONE will include a proprietary range extender which includes up to four small portable batteries, each adding about 20km range and weighing 9kg for a total 290km range.

The portable batteries can be recharged at work, home, or any location that has an electrical outlet.

The company plans to launch MiracleTWO from 2024.



CANADA LIKELY FIRST TO ALL EVS

Canada is expected to be the first country to commit to all electric vehicles as soon as this year.

That's according to new research by CarMoney which analysed the top economy countries by GDP with net-zero targets to see how many are on track to achieve their EV goals set out in the Paris treaty.

Electric car sales in Canada will outweigh internal combustion engine (ICE) cars as soon as this year, taking up 55% of the market share.

That will make it the first country to meet net-zero targets based on electric cars alone, with the US close behind, its EV sales exceeding ICE cars by 2024.

By 2026, Canada is predicted to be the first country to fully commit to electric passenger cars with zero ICE car sales, and a huge 278,081 EV sales.



NISSAN SELLS A MILLION EVS GLOBALLY

Nissan has passed one million EV sales world-wide, selling more than 650,000 Leafs in 50 markets.

Last year, Nissan began selling the Ariya electric crossover and the Sakura – its first EV in the Japanese mini-vehicle market, receiving orders for 50,000.

Under its Nissan Ambition 2030 long-term vision, it plans to launch 19 EVs by fiscal year 2030, including EVs with solid-state batteries.



FISKER SHOWCASES EV LINE-UP TO 2026

Fisker previewed its EV line-up in Huntington Beach, California, presenting four vehicles and technology.

Chairman and chief executive **Henrik Fisker** presided over reveals of the Fisker Ocean SUV with a Force-E offroad package (due Q1 2024), the Fisker Ronin four-door convertible GT sports car, the Fisker PEAR (Personal Electric Automotive Revolution) sustainable city EV (due mid-2025), and the Fisker Alaska electric pick-up truck (deliveries expected to start 2025).

The company detailed its Fisker Blade computer, a central computing platform which aims to reduce complexity in forthcoming vehicles and says that it intends producing the world's first climate-neutral vehicle by 2027.



STEEL E-MOTIVE AIMS FOR AV RIDESHARE

A global steel industry initiative aimed at developing the world's first fully autonomous, electric vehicle body structure concept for ridesharing has been unveiled.

Steel E-Motive, is the culmination of three years' research led by WorldAutoSteel in partnership with engineering firm Ricardo.

The aim is to create a fully autonomous ridesharing vehicle showcasing the strength and durability of steel with a critical focus on sustainability for reaching net zero emissions targets.

Two virtual concepts are designed for 2030-2035 deployment - the SEM1, a four-passenger urban transport, and SEM2, a six-passenger extra-urban commuter, both designed for level five autonomy with no steering or pedal box. More than 250,000 are planned.



EV DEMAND REMAINS STRONG

BY GEOFF DOBSON

Fuel price increases are again driving EV enquiries and sales.

Used EV dealers say more Kiwis are considering going electric, and Trade Me Motors sales director **Jayme Fuller** says the number of watchlists for EVs was up 17% in July compared with the same month in 2022.

Buyers have more choice too, with the number of EVs listed on Trade Me up 25% year-on-year in July.

The Nissan **Leaf** continued to be the most popular EV, followed by the MG **ZS** and Tesla **Model 3**.

The average price for an EV was \$37,720 in July, an increase of 11% on the same month last year.

"Over the past few months, we've seen a surge of new EVs hit the market at a higher price point," says Fuller.

"This has seen current owners upgrade which is good news for those wanting to pick up a secondhand EV as more used models come to market at affordable prices."

"Sales are as strong as ever," says

Christchurch's EV City owner **Dave Boot** says stock supply is the one constraint on selling "as shipping delays became our Achilles heel."

Boot says there's been no slowdown yet in EV sales or chatter about election fears.

"Seems the onward marching fuel prices are helping drive demand more than election fears," he adds.

Genuine Vehicle Group director **Hayden Johnston** agrees petrol price increases are driving EV demand.

He believes winter illnesses are affecting many people in the automotive industry, including those in supply and compliance.

He says shipping has been OK, with more EVs and hybrids due from Japan in September, adding the Auckland market is very reactive to fuel price rises while Tauranga is seeing high demand for hybrids.

"Sales are still good and we're meeting our targets," says Johnston, adding it's been a bit slower getting there with Auckland's bad weather keeping people from getting out and about.

Genuine Vehicle Imports (GVI) sells EVs and hybrids for under \$35,000 so Johnston says it's unaffected by any competition from new EVs, which are arriving here in greater numbers, especially Chinese brands.

Volt Vehicles managing director **David Lees** says EV enquiries have lifted, more for the older, lower priced Nissan **Leaf**, and generally from people looking for a low-cost commuting or around town car.

"It's probably a reflection of the increased cost-of-living and also hopefully a growing acceptance of EVs moving to mainstream vehicles."

Lees says the rest of the market is continuing to be fickle with enquiries and sales up and down week-to-week. "Maybe

this is due to the reluctance to spend on capital purchases as we approach the election this year."

The possibility of a change of government and hence threat of reduction of the Clean Car rebate and other incentives is concerning, not just from a car reseller's point of view but as a backward step in the push for reduced emissions by offering incentives, says Lees.

"On the other hand, the increase in petrol prices does offer an incentive to move toward EVs. "No doubt we'll find out in due course."

Lees says Volt Vehicles is still seeing buyers taking advantage of the low interest rates being offered by some banks for eco products.

"The exchange rate has been fairly consistent while shipping times from Japan can vary from eight to 14 weeks.

"These shipping times continue to make stock management a bit more difficult, but in reality, is probably the new normal," Lees adds.

Autolink Electric Vehicles managing director **Henry Schmidt** wonders how much will change if a National-led government is elected as forecast.

There's talk of ditching many aspects of the Clean Car scheme, along with fuel tax, but having all road users pay road user charges (RUC).

Schmidt says enquiries and sales of secondhand EVs have risen following petrol price increases, but that some people appear to be taking longer to decide whether to switch to an EV.

People expecting a good trade-in price on a high mileage, big engine European model may be disappointed as Schmidt says those cars are more difficult to trade.

Invercargill's The Electric Motor Vehicle Company's **Alex de Boer** says July has been another very slow month for EVs in the south.

"I can't see anything improving. Ours is a big farming area and everyone has stopped spending on anything but essentials. If you don't do many kilometres it doesn't make sense to buy an electric vehicle.

"However, the Arabs and Russia want the price of oil to go up and have cut production. Also, exploration for oil has gone down.

"This combination in the face of a high demand for oil is quickly pushing up the price and this will soon feed through into higher fuel prices," says de Boer, adding he believes petrol will be close to \$4 a litre by the end of the year.

He reckons a National government will apply road user charges (RUC) to EVs "and maybe even more tax on fuel as they believe road users should play their part to pay for road maintenance".

On the upside, de Boer says it'll all help push people into EVs.



HENRY SCHMIDT



HAYDEN JOHNSTON



JAYME FULLER



ALEX DE BOER



AIMEE WILEY



DAVE BOOT



DAVID LEES

Continued on following page...

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...Continued from previous page

"This will be more effective than a Clean Car discount or surcharge and we might finally see the end of this financial waste of resources which can then be directed to rebuild our damaged roads. It will be an interesting time."

New vehicle registrations slumped to less than half typical monthly averages in July at 6202 units.

Motor Industry Association (MIA) chief executive **Aimee Wiley** says though that's expected following the market high in June, a concern is the market disruption generated by Clean Car discount policy

changes.

"This will likely be causing unnecessary complexity and uncertainty for distributors, the dealership network, and the entire supply chain associated with automotive throughout the country," she says.

About 826 new battery electric vehicles (BEVs), 406 plug-in hybrids (PHEVs), 1150 hybrids, and 3820 internal combustion engine (ICE) vehicles were registered in July.

Top BEV models were the Tesla **Model Y** (169 units), Kia **Niro** (147), followed by the Volkswagen **ID.4** (63 units).

BEVs comprised 18.1% of the July light passenger segment.

The Mitsubishi **Outlander** (141 units) led the PHEV category, followed by the Mitsubishi **Eclipse Cross** (89) and the Lexus **NX** (27), with PHEVs comprising 9.3% of the light passenger segment in July.

The three top hybrid models were the Toyota **RAV4** (307 units), the Hyundai **Tucson** (113 units) and the Honda **Jazz** (75 units) with HEVs comprising 26.5% of the light passenger segment in July.

That compares with ICE vehicles making up 46.1% of the light passenger segment.

Light commercial BEVs comprised 15 units in July, 178 year-to-date, and heavy commercial BEV registrations were 24 in July and 67 year-to-date.

| NEW EV CAR TYPES - PLUG-IN HYBRID | | |
|-----------------------------------|------------|-------------|
| MAKE AND MODEL | JULY 2023 | YTD 2023 |
| MITSUBISHI OUTLANDER | 141 | 622 |
| MITSUBISHI ECLIPSE CROSS | 89 | 1722 |
| LEXUS NX | 27 | 94 |
| MINI COUNTRYMAN | 20 | 133 |
| BMW 2 SERIES | 16 | 16 |
| HYUNDAI TUCSON | 12 | 32 |
| MG HS | 11 | 173 |
| FORD ESCAPE | 10 | 328 |
| LAND ROVER RANGE ROVER EVOQUE | 10 | 45 |
| LAND ROVER RANGE ROVER SPORT | 8 | 40 |
| VOLVO XC60 | 6 | 35 |
| MERCEDES-BENZ C-CLASS | 5 | 31 |
| SKODA SUPERB | 5 | 38 |
| VOLKSWAGEN T7 | 4 | 30 |
| BMW X3 | 4 | 29 |
| JEEP COMPASS | 4 | 25 |
| VOLVO XC90 | 4 | 40 |
| FERRARI 296 | 3 | 7 |
| BMW X5 | 3 | 21 |
| LAND ROVER RANGE ROVER | 3 | 41 |
| OPEL GRANDLAND | 3 | 5 |
| BMW 3 SERIES | 2 | 23 |
| SKODA OCTAVIA | 2 | 9 |
| AUDI Q5 | 2 | 18 |
| KIA NIRO | 2 | 234 |
| LAND ROVER RANGE ROVER VELAR | 2 | 23 |
| BMW XM | 2 | 7 |
| FERRARI SF90 STRADALE | 1 | 7 |
| PORSCHE PANAMERA | 1 | 4 |
| JEEP GRAND CHEROKEE | 1 | 10 |
| KIA SORENTO | 1 | 360 |
| LAND ROVER DEFENDER | 1 | 19 |
| MAZDA CX-60 | 1 | 3 |
| BENTLEY FLYING SPUR | 0 | 1 |
| BMW 5 SERIES | 0 | 2 |
| CUPRA FORMENTOR | 0 | 1 |
| HYUNDAI IONIQ | 0 | 3 |
| MERCEDES-BENZ A-CLASS | 0 | 14 |
| PEUGEOT 308 | 0 | 23 |
| PEUGEOT 508 | 0 | 1 |
| TOYOTA PRIUS | 0 | 3 |
| CITROEN C5 AIRCROSS | 0 | 26 |
| HYUNDAI SANTA FE | 0 | 3 |
| JAGUAR F-PACE | 0 | 4 |
| JEEP RENEGADE | 0 | 10 |
| MERCEDES-BENZ GLC | 0 | 9 |
| PEUGEOT 3008 | 0 | 13 |
| PORSCHE CAYENNE | 0 | 27 |
| FORD TRANSIT | 0 | 18 |
| TOTAL | 406 | 4382 |

| USED EV CAR TYPES - ELECTRIC JULY 2023 | | |
|--|---------------|----------------|
| MAKE | MODEL | TOTAL VEHICLES |
| NISSAN | LEAF | 275 |
| BYD | E6H | 3 |
| NISSAN | E-NV200 | 3 |
| SMART | FORTWO | 3 |
| TESLA | MODEL S | 3 |
| PEUGEOT | E-2008 | 2 |
| PEUGEOT | E-208 | 2 |
| HONDA | E | 1 |
| MAZDA | MX-30 | 1 |
| MITSUBISHI | I-MIEV | 1 |
| PORSCHE | TAYCAN | 1 |
| SKODA | ENYAQ | 1 |
| BMW | I3 | 1 |
| MERCEDES-BENZ | A250 | 1 |
| MERCEDES-BENZ | C-CLASS | 1 |
| MERCEDES-BENZ | E350 | 1 |
| MITSUBISHI | ECLIPSE CROSS | 1 |
| TOTAL | - | 301 |

NEW MAKES & MODELS & USED IMPORTS

| NEW EV CAR TYPES - ELECTRIC | | |
|-----------------------------|------------|----------------|
| MAKE AND MODEL | JULY 2023 | YTD 2023 |
| TESLA MODEL Y | 169 | 2126 |
| KIA NIRO | 147 | 423 |
| VOLKSWAGEN ID.4 | 63 | 63 |
| BYD ATTO 3 | 60 | 1895 |
| TESLA MODEL 3 | 35 | 646 |
| HYUNDAI IONIQ | 31 | 411 |
| MG ZS | 29 | 1177 |
| FORD MUSTANG MACH-E | 23 | 219 |
| AUDI Q4 E-TRON | 20 | 22 |
| BMW X1 | 17 | 46 |
| NISSAN LEAF | 16 | 116 |
| KIA EV6 | 16 | 588 |
| POLESTAR POLESTAR 2 | 15 | 279 |
| VOLKSWAGEN ID.5 | 15 | 82 |
| BMW 4 SERIES | 13 | 105 |
| BMW I | 13 | 96 |
| GWM ORA | 10 | 122 |
| HYUNDAI IONIQ 6 | 9 | 62 |
| BYD DOLPHIN | 8 | 8 |
| CITROEN C4 | 7 | 8 |
| MINI HATCH | 7 | 115 |
| HYUNDAI IONIQ 5 | 7 | 305 |
| FORD TRANSIT | 7 | 11 |
| PEUGEOT 208 | 6 | 137 |
| MERCEDES-BENZ EQE | 6 | 34 |
| HYUNDAI KONA | 6 | 293 |
| VOLVO XC40 | 6 | 96 |
| MERCEDES-BENZ EQB | 4 | 37 |
| PORSCHE TAYCAN | 3 | 26 |
| FIAT 500E | 3 | 25 |
| LEXUS UX300E | 3 | 63 |
| OPEL MOKKA | 3 | 89 |
| KIA NIRO PLUS | 3 | 100 |
| TOYOTA BZ4X | 3 | 3 |
| LDV EDELIVER 9 | 3 | 32 |
| MERCEDES-BENZ EQA | 2 | 76 |
| PEUGEOT 2008 | 2 | 81 |
| SSANGYONG KORANDO | 2 | 8 |
| LEXUS RZ | 2 | 24 |
| PEUGEOT EXPERT | 2 | 20 |
| AUDI E-TRON | 1 | 49 |
| JAGUAR I-PACE | 1 | 13 |
| MERCEDES-BENZ EQC | 1 | 38 |
| LDV EDELIVER 3 | 1 | 35 |
| PEUGEOT PARTNER | 1 | 12 |
| LDV ET60 | 1 | 51 |
| AUDI E-TRON GT | 0 | 15 |
| MERCEDES-BENZ V-CLASS | 0 | 1 |
| MERCEDES-BENZ EQS | 0 | 2 |
| OPEL CORSA | 0 | 15 |
| MG 4 | 0 | 1 |
| CUPRA BORN | 0 | 2 |
| RENAULT MEGANE E-TECH | 0 | 1 |
| MAZDA MX-30 | 0 | 13 |
| VOLVO C40 | 0 | 20 |
| MERCEDES-BENZ SPRINTER | 0 | 1 |
| MERCEDES-BENZ VITO | 0 | 14 |
| RENAULT KANGOO | 0 | 1 |
| TOTAL | 802 | 10,3535 |

| USED EV CAR TYPES - PLUG-IN HYBRID JULY 2023 | | |
|--|---------------|----------------|
| MAKE | MODEL | TOTAL VEHICLES |
| MITSUBISHI | OUTLANDER | 117 |
| TOYOTA | PRIUS | 28 |
| TOYOTA | RAV4 | 7 |
| BMW | 330E | 6 |
| BMW | 530E | 3 |
| FERRARI | 296 | 2 |
| VOLKSWAGEN | GOLF | 2 |
| BMW | MINI | 1 |
| MERCEDES-BENZ | C350 | 1 |
| MINI | COOPER | 1 |
| MITSUBISHI | ECLIPSE CROSS | 1 |
| BMW | 225XE | 1 |
| TOTAL | | 170 |

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HIGHLIGHTS OF THE MONTH

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

BYD NZ PLANS MORE EVS

BYD will launch its plug-in (PHEV) DM-1 Super Hybrid ute among three EVs due here early next year. The full battery electric vehicle (BEV) ute is planned further down the track, says BYD Auto New Zealand brand manager **Warren Willmot**.
“For NZ, it’s important we maximise payload and towing capability, and the DM-I Super Hybrid model offers more in that regard,” he says.



MG4 AVAILABLE FOR TEST DRIVES




Test drives of the MG4 are available at New Zealand MG dealers.
“The MG office has been abuzz while we’ve been tracking the ship with first delivery of this incredible new model, it’s finally here and vehicles are being unloaded and transported to MG dealers around the North and South Islands as we speak,” says MG New Zealand country manager **Arek Zywo**.
The MG4 Excite with 51kWh battery is available under \$40,000 (plus on-road costs) after Clean Car rebate, the EV also having a seven-year warranty, seven-year roadside assistance and seven-year Warrant of Fitness checks.



TWO KIWIS AT JAGUAR TCS RACING

Nick Cassidy joins fellow Kiwi **Mitch Evans** at Jaguar TCS Racing for the ABB FIA Formula E World Championship 2024 season, replacing Briton **Sam Bird**.
Cassidy’s move from the Envision Racing team, where he coincidentally uses Jaguar I-Type race cars, follows his most successful Formula E season with four wins.
Jaguar TCS Racing announced Cassidy’s signing shortly after confirming Evans will stay with Jaguar.



| POWER DEALS FOR EV USERS | | | |
|---|---|--------------|----------------------|
| Company | Energy Deals | Where | Cost to charge LEAF* |
|  | 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 | \$5.75 |
| | | Wellington | \$5.82 |
| | | Christchurch | \$5.63 |
|  | Electric Car Plan: Jumpstart your EV journey with a \$200 credit, fixed rates for 2 years and night rates that run from 9pm to 7am*. Our cheaper night rates aren’t restricted to just charging your car either, you’ll save on all the power you use between those hours! *Terms, conditions and eligibility criteria apply, visit meridian.co.nz/evplan or call 0800 496 496 to find out more. | Auckland | \$4.91 |
| | | Wellington | \$4.36 |
| | | Christchurch | \$3.59 |
| Contact Energy | Everyday Bonus Fixed: Excellent night rates, no fixed term, check if the matching daytime kWh rate will affect your overall bill. | Auckland | \$5.47 |
| | | Wellington | \$4.53 |
| | | Christchurch | \$3.20 |
|  | ecoSAVER: Competitive, off-peak pricing for your EV. no contracts, energy charges are fixed for 3 years. | Auckland | \$5.25 |
| | | Wellington | \$2.31 |
| | | Christchurch | \$5.09 |
| 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 designate Hour of Power. | Auckland | \$6.46 |
| | | Wellington | \$6.49 |
| | | Christchurch | \$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 | \$5.79 |
| | | Wellington | \$5.00 |
| | | Christchurch | \$4.36 |
| Genesis** | Energy EV: The company offers a 50% discount on your energy rates between 9PM and 7AM. Price certainty with the 12-month fixed term. Ability to gain Power Shout hours (flexible free hours of power). | Auckland | \$4.09 |
| | | Wellington | \$3.70 |
| | | Christchurch | \$3.70 |
| Nova Energy | Home EV Electricity Plan: This plan finishes on 18/4, new rates start in may. No fix term, must have e-billing, 20% PPD, no fixed price. | Auckland | \$6.41 |
| | | Wellington | \$6.29 |
| | | Christchurch | \$6.39 |
| 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 | \$4.90 |

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

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

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

**Correction. In the table of Power Deals for EV Users published in our last newsletter, we included incorrect information for Genesis Energy. The company offers a 50% discount on your energy rates between 9PM and 7AM. Price certainty with the 12-month fixed term. Ability to gain Power Shout hours (flexible free hours of power). Its cost to charge a LEAF are Auckland: \$4.09; Wellington: \$3.70; and Christchurch: \$3.70. We apologise for the error

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/groups/NZEVOwners |
| 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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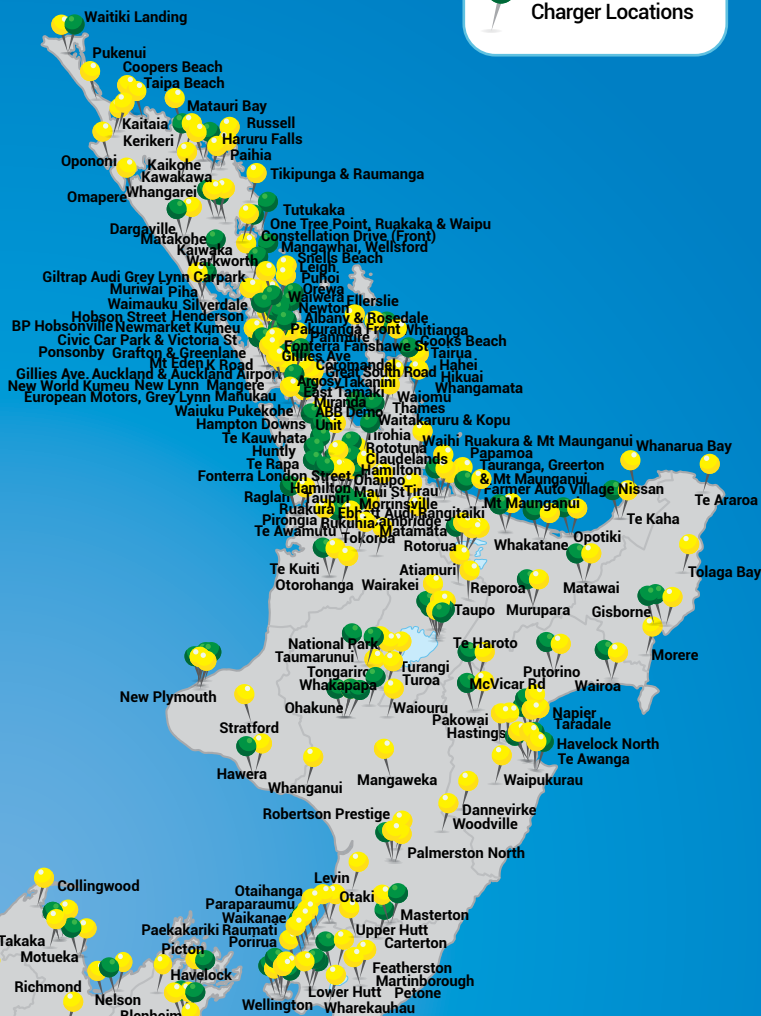
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Fast / Super Charger Locations – North Island

| | | | |
|-----------------|---------------------------------------|----------------|------------------------------------|
| Waitiki Landing | 9049 Far N Rd, Te Hapua 0484 | Tokoroa | New World, 72 Bridge St |
| Pukenui | Houhora Fishing Club, 4126 Far Nth Rd | Matawai | 6522 Matawai Rd |
| Coopers Beach | Four Square, 9 Coopers Dr | Tolaga Bay | 43 Cook St (25kWh charger) |
| Kaitia | Te Ahi, 28 South Rd | Te Kuiti | New World, 39 Rora St |
| Kaitiaki | Pak'nSave, 111 North Rd | Murupara | Pine Drive Car Park, Pine Dr |
| Kerikeri | 1 Butler Rd | McVicar Rd | McVicar Rd, SH5 |
| Opononi | Four Square, 29 SH12 | Taupo | Firestation, 1 Kaimanawa St |
| Kaikohu | Library Carpark, 14 Marino Pl | Gisborne | Tesla, 1 Kaimanawa St |
| Kawakawa | 4 State Highway 1 | Gisborne | 21 Gladstone Rd |
| Tikipunga | Paramount Plaza, 1 Wanaka St | Moreere | Gisborne Police Station |
| Whangarei | 11 Alexander St | Moreere | Hot Pools, 3968 SH2 (25 kWh) |
| Raumanga | McDonalds, 130 Tauroa St | Rangitiki | Lodge Cafe, 3281 SH5 |
| Dargaville | Totara St Park, 113 Totara St | Turangi | 66 Courtenay St |
| Kawaka | 1 Kawaka-Mangawhai Rd | New Plymouth | Business Centre, 23 Napier St |
| Warkworth | New World, 6 Percy St | Opunake | 75 Queen St |
| Warkworth | BP, 67 Auckland Rd (SH1) | Wairoa | 5466 State Highway 2 |
| Orewa | 17 Hibiscus Coast Hwy | Putorino | Rukuhia |
| Silverdale | Silverdale Right | Mystery Creek | Four Square, 4354 SH4 |
| Silverdale | Silverdale Left | National Park | New World, 30 Ayr St |
| Albany | The Warehouse, | Ohakune | 54 Clyde St, Ohakune 4625 |
| | 186 Don McKinnon Dr | Ohakune | New World, 12 Huia St |
| Rosedale | McDonalds, 14 Constellation Dr | Taihape | Mc Vicar Rd, 4237 SH5 |
| Rosedale | Constellation Dr Front | Te Haroto | Cnr SH1 & Hassett Dr |
| Kumeu Left | New World, 110 Main Rd | Waiouru | Pak'nSave, 54 Princes St |
| Kumeu Right | New World, 110 Main Rd | Hawera | 206 Dickens St |
| Henderson | Pak'nSave, 224 Lincoln Rd | Napier | 100 Queen St W |
| Hobsonville | BP Hobsonville | Hastings | Papa Cliff Cafe, 2 Koraenui St |
| Akld CBD | Vector, 21 Hobson St | Wanganui | Pak'nSave, 167 Glasgow St |
| Argosy | 39 Market Place | Waipukurau | 34 Russell St |
| Beach Rd | Z Station, 150 Beach Rd | Dannevirke | 248 Gordon St |
| K Road | Tesla, 501 Karangahape Rd | Woodville | i-SITE, 43 Vogel St |
| Newmarket | 1 Gillies Ave | Palmerston Nth | i-SITE, 126 The Square |
| Newmarket | Vector Sub Front 1 Gillies Ave | Palmerston Nth | Tesla, 365 Ferguson St |
| Greenlane | 42 Great South Rd, Epsom | Levin | New World, 21 Bath St |
| Grey Lynn | McDonald's, 320 Gt Sth Rd | Otaki | New World, 155-163 Main Hwy |
| Grey Lynn | Giltrap Audi Carpark | Paraparaumu | Kapiti Pak'nSave, 132 Rimu Rd |
| Grey Lynn | Giltrap Porsche | Raumati | 15 Raumati Rd, Paraparaumu |
| Pakuranga | European Motors 1 Nixon St, Akld | Paekakariki | 70 Wellington Rd Paekakariki |
| Botany Downs | Z Station, 550 Te Irirangi Dr | Masterton | Queen Elizabeth Park, |
| Akld Airport | Shopping Ctr, George Bolt Mem. Dr | Porirua | 3 Dixon St |
| Akld Airport | 2 Skyway, George Bolt Mem. Dr | Featherston | 2 Serby Pl |
| Takanini | 30 Walters Rd | Fonterra | SuperValue, 42 Fitzherbert St |
| Takanini | Vector Sub Front 1 Gillies Ave | Upper Hutt | 109 Fanshawe St |
| Takanini | Pak'nSave, 345 Great South Road | Lower Hutt | 24 Queen St |
| Coromandel | Takamini Village | Wellington | Dowse Art Museum, 1 Stevens Gr |
| Whitianga | 44 Woolams Rd | Wellington | Grey St Parking |
| Tairua | 4 Lee St | Wellington | 5 Ponui Place Mt Wellington |
| Sydney | Carpark, 6 Tokoroa Rd | Wellington | 66 Cambridge Terrace |
| Pukekohe | King Street Carpark, 56 King St | Otorohanga | 5 Bell Lane |
| Pukekohe | Counties Power, 14 Glasgow Rd | Robertson | 215 John F Kennedy Dr |
| | (Bus hrs) | Petone | Z Station, 60 Hutt Rd |
| Waiuku | Kitchener Rd Carpark | Taupiri | BP Taupiri |
| Thames | 505 Mackay Street | Taumarunui | 116 Hakiha St |
| Whangamata | 190 Hetherington Road | Te Aro | Z Station, 174 Vivian St |
| Hampton Downs | Gate 1, Motorsport Park | Te Aro | Barnett St Carpark, 11 Barnett St |
| Te Kauwhata | 16 Wayside Rd | Te Aro | Inglewood Parking, 68 Inglewood Pl |
| Waihi | New World 35 Kenny St | | |
| Huntly | Countdown, 18 Tumate Mahuta Dr | | |
| Morrinsville | New World, 79/89-97 Thames St | | |
| Te Rapa | WEL Networks, 114 Maui St | | |
| Rototuna | Countdown, 160 Peachgrove Rd | | |
| Matamata | New World, 45 Waharoa Rd | | |
| Claudlands | Countdown, 160 Peachgrove Rd | | |
| Hamilton | Tesla, The Base, Te Rapa Rd | | |
| Hamilton | Countdown, 551 Anglesea St | | |
| Hamilton | Caro St Carpark, 7 Caro St | | |
| Hamilton | Countdown, 4 Bridge St | | |
| Hamilton | Ebbett Volkswagen | | |
| Hamilton | Ebbett Audi | | |
| Hamilton | Fonterra London St | | |
| Ruakura | Waikato Innov. Pk, 9 Melody Ln | | |
| Raglan | 43 Bow St | | |
| Tirau | 3 Station St | | |
| Mt Maunganui | Bayfair, 19 Givern Road | | |
| Mt Maunganui | New World, 1 Tweed St (25 kWh) | | |
| Mt Maunganui | Farmer Auto Vill Nissan 44 Maru St | | |
| Cambridge | 73 Queen Street | | |
| Pirongia | Four Square, 270 Crozier St | | |
| Te Awamutu | 10 Scout Lane | | |
| Whakatane | i-Site, 30 Quay St | | |
| Opotiki | i-Site, 70 Bridge St | | |
| Te Kaha | Te Kaha Bch Res, 3 Hotel Rd | | |
| Te Araroa | 22 Rata St (25 kWh) | | |
| Rotorua | 1134 Haupapa St | | |

-  Fast Charger Locations
-  Destination Charger Locations



Fast / Super Charger Locations – South Island

| | |
|--------------|--|
| Takaka | 16 Willow St |
| Havelock | Four Square, 68 Main Rd |
| Motueka | New World, 271 High St |
| Karamea | Four Square, 103 Bridge St |
| Nelson | i-SITE, 81 Trafalgar St |
| Nelson | New World, 73 Vanguard St |
| Richmond | Library, 11 Mcglashen Ave |
| Spring Creek | 2226 SH1, Blenheim 7202 |
| Blenheim | Pak'nSave, Springlands |
| Ward | Flaxbourne Cafe, 7326 SH 1 |
| Westport | New World, 244 Palmerston St |
| Reefton | Four Square (25 kWh) 47 Broadway |
| Greymouth | 13 Tarapuhi Street |
| Kaikoura | 51 West End |
| Kaikoura | New World, 124 Beach Road |
| Hokitika | New World, 116 Revell St |
| Culverden | 27A Mountain View Rd |
| Amberley | Countdown, 123 Carters Rd |
| Rangiora | Pak'nSave, 2 Southbrook Rd, |
| Northwood | New World, 2 Mounter Ave |
| Harewood | Raeward Fresh, 800 Harewood Rd |
| Addington | Z Station, 40 Moorhouse Ave |
| Halswell | New World, 9 Nicholls Rd |
| Christchurch | 50 Park Tce |
| Christchurch | Archbalds Audi, 32 Tuam St |
| Rollston | New World, 90 Rolleston Dr |
| Lincoln | New World, 77 Gerald St |
| Little River | 4235A Christchurch Akaroa Rd |
| Rakaia | 41 Bridge St |
| Ashburton | 109 West St |
| Tekapo | Lake Tekapo Tavern, SH8 |
| Fairlie | Opp. 53 Main St |
| Geraldine | Cox St Carpark, 14 Geraldine-Fairlie Hwy |
| Temuka | New World, 185 King St |
| Twizel | Events Ctr, 61 McKenzie Dr |
| Timaru | 26A North St |
| Oamaru | 2 Sutherland Rd |
| Oamaru | Tesla, Hot Tubs, 29 Oamaru Ave |
| Kuwrow | Wynyard St |
| Wanaka | 42 Ardmore St |
| QMG AUDI | 2 Hawthorne Dr, Frankton, Queenstown |
| Queenstown | Tesla, Remarkables Park Town |
| Athol St | 9 Athol St, Queenstown |
| Frankton | Pak'nSave, 302 Hawthorn Dr |
| Cromwell | i-SITE, 2 The Mall |
| Waimate | 125 Queen Street |
| Oamaru | Eden St Carpark, 3 Eden St |
| Ranfurly | 31 Charlesmont Street |
| Alexandra | 9 Thompson Street |
| Hampden | 33 Lincoln St |
| Nth Dunedin | University of Otago, 71 St David St |
| Dunedin | Filleul St Carpark, 19 Ross Pl |
| Dunedin | 300 Anderson Bay Rd |
| Mosgiel | New World, 10 Hartstonge Ave |
| Milton | Four Square, 207 Union St |
| Roxborough | 22 Jedburgh St |
| Lumsden | Four Square, 14 Diana St |
| Lawrence | Four Square, 19 Ross Pl |
| Winton | New World, 293 Great North Rd |
| Gore | New World, 8 Irk St |
| Balclutha | 23 Charlotte St |
| Invercargill | 116 Esk St |
| Methven | Methven |

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