$3.2M IN EV FUNDING

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NEW ZEALAND FAILS DISMALLY ON EVS

New Zealand is falling way, way behind the rest of the world in its move to a fossil fuel free future.

New Zealand politicians seem blind to the fact that 37% of the country’s emissions come from transport and unless something is done to promote EVs there is no chance of meeting the country’s signed agreements regarding emission targets.

The current government has been particularly impotent, not even bothering to show leadership by moving its own fleet to EVs and leaving it up to private citizens and companies to wave the banner for EVs.

Compare this with Europe, for instance, where tough new limits on emissions are forcing manufacturers to switch slowly to production of EVs - and face fines of 14.5 billions of euros (NZ$25 billion) if they do not hit these targets by 2021.

The COVID-19 pandemic has led to a collapse in sales of diesel and gasoline cars, but electric and plug-in sales are booming, according to the Association des Constructeurs Européens d’Automobiles (ACEA), the European car lobby, accounting for 8% of sales in the first six months of 2020 - double last year’s rate.

Norway now plans to ban the sale of new diesel and petrol powered vehicles from 2025. One idea discussed by commission officials could see the EU match any national e-car purchase premium programmes as part of the coronavirus rescue effort. As capitals prepare to submit plans to access the €750 billion EU recovery fund, that could encourage those with low e-car penetration rates to set up stimulus programmes.

“The car industry will benefit from the ambitious recovery instrument of €750 billion ... while remaining eligible for financial aid under several programmes within [the] revised Multiannual Financial Framework proposal,” a commission official told Politico.

The growth in electric car sales is not because the coronavirus has made car buyers greener. Rather, it’s that government coronavirus rescue programmes in big countries - including Germany and France - have included special provisions to make electric car sales especially attractive.

E-market shares hit 26% in Sweden and 9% in both Germany and France in June. By contrast, Italy and Spain saw clean car shares of just 3% and Poland a paltry 1%, according to figures by the International Council on Clean Transportation.

“The south remains a problem,” says a car industry executive. “No buying power, high unemployment, no growth.”

HOT NEWS

When we were all despairing that anything would ever be done in New Zealand to promote EVs, National announced an ambitious EV plan on Friday (September 11).

EVs will be exempt from fringe benefit tax (FBT) until 2025 to encourage fleet uptake, and a road user charge (RUC) exemption will be extended to at least 2023 under a National government.

National’s EV policy, launched at Auckland City Electric Vehicles in Auckland on September 11, also includes setting a target of 80,000 EVs on the road by 2023 (four times the current level), allowing EVs to use bus lanes and high-occupancy lanes, and aims to have a third of the government light vehicle fleet in EVs by 2023.

The party’s EV package estimates the fiscal impact at $93 million over four years. This includes $35m over four years in lower revenue from exempting EVs from FBT and $38m over four years in electrifying the Government fleet. A National Government will make EVs cheaper and reduce transport emissions through its “ambitious” EV plan, says National Party leader Judith Collins in announcing the policy alongside National’s transport spokesperson Chris Bishop and associate environment spokesperson Erica Stanford.

“We’re committed to addressing the issue of our transport emissions in a practical and effective way,” Collins says. “This ambitious plan will make EVs cheaper and easier to own without unfairly taxing Kiwis.

“We believe the future of transport in New Zealand will be zero emissions. Our ambitious and comprehensive plan will encourage the purchase of EVs, create a thriving secondhand EV market, support sustainable transport infrastructure, and lower carbon emissions in New Zealand’s transport sector.”

Bishop says transport emissions are the largest driver of increasing greenhouse gas emissions in New Zealand, having doubled since 1990.

“Labour has failed to deliver a single new policy to increase EV uptake. Their abandoned car tax actually slowed EV sales and, if implemented, would have punished those who could least afford it.

“Exempting EVs from fringe benefit tax will significantly bolster the second hand market by giving Kiwis access to New Zealand-new, longer range, late model EVs.”

Stanford says National’s policy package is practical, supported by the sector and will deliver immediate positive benefits.

National believes more can be done to allow the shift to fully electric, plug-in hybrid (PHEVs) and hydrogen vehicles (FCEVs) sooner, its two-page EV plan states, possibly including extending the RUC break for six years rather than three.

New Zealand has more than 22,000 EVs, representing about 0.6% of the light passenger fleet, but that growth is slow and has been impacted by the Labour-led government’s Clean Car scheme, particularly its “feedrate” proposal, it adds.

“The policy was poorly targeted with most of the money going to drivers of smaller petrol cars rather than EVs.”

The EV plan says EV sales growth slowed while buyers ‘waited for a rebate that would never materialise’.

A new EV licence plate will be introduced by National for ease of identification and to allow EV users to access bus lanes and high-occupancy vehicle lanes, which National says it will implement immediately on state highways and work with councils to have in cities if elected after October 17.

See P18 for Drive Electric’s view on National’s EV ideas and Labour’s “clean energy” plan.

By Vern Whitehead, Publisher
Electric truck, bus and bike projects share in a $3.2 million government funding allocation. The 24 successful applicants for round eight of the low emission vehicles contestable fund have been announced by energy and resources minister Dr Megan Woods.

Recipients contribute a total $5m themselves under the fund administered by the Energy Efficiency and Conservation Authority (EECA). The new projects encourage EV and e-bike uptake.

For the first time, organisations could apply for co-funding to install secure e-bike storage facilities to encourage uptake, with five such projects approved.

“Demand for e-bikes is high, but we know one barrier to regular e-bike commuting is having somewhere safe to store the bike,” Woods says.

“Decarbonising the transport sector represents a huge opportunity to reduce the country’s emissions and enable people to shift to a different transport mode plays a part in that.”

Woods notes a number of previously funded ventures and spin-offs have hit the road in the last few months.

They include Foodstuffs launching the first fully electric heavy refrigerated truck in the country, a NZ Post scheme to assist its contract drivers to buy electric delivery vans, and Asthma New Zealand buying EVs for its mobile nurses to reduce air pollution.

“The contestable fund encourages innovation and investment to accelerate the uptake of low emission vehicles in New Zealand,” Woods adds.

“The success of previously funded projects shows that we can meet New Zealand’s transport needs across a variety of sectors, giving other organisations the confidence to make their own investments.”

Some projects to receive the latest funding include secure e-bike storage projects at the University of Otago, Hawke’s Bay Airport, Whakatane District Council, Big Street Bikers (Wellingt) and Invercargill City Council; Tranzit for plans to convert a diesel bus to electric in Masterton; and Davis Food Ingredients to buy two electric trucks and testing electric and eutectic refrigeration technologies.

Among several other recipients are ChargeNet NZ to install multi-connection 300kW high-speed chargers at Smales Farm (North Shore), Christchurch, Bulls and Kaiwaka; Mahu City Express for testing a battery leasing solution for electric buses, urban cohousing development Cohaus will install two slow EV chargers as part of a car share scheme; and Critchlow Geospatial will develop software to help fleet owners work out the cost effectiveness of EVs in their fleets.

This round of funding takes the total number of projects funded to date to 163, worth a combined $27m in government funding, matched by $55m in applicant funding.

Round nine closed on September 14 with successful projects to be announced December.

The successful round eight applicants:

1. Central Otago District Council $76,500
   Electrification of the Central Otago Touring Route.
   Central Otago District Council, in collaboration with ChargeNet NZ, will install two public 50kW DC fast chargers to unlock affordable electric transport choices for tourists, residents, and organisations serving rural communities along the Central Otago Touring Route - 394km of stunning natural and cultural attractions from Queenstown to Dunedin via the Strath Taieri and the Maniototo.

2. ChargeNet NZ $39,000
   Closing a gap - Eketahuna
   To put a public 50kW DC fast electric vehicle charger in the North Island at Eketahuna, filling a critical gap in the network.

3. ChargeNet NZ $153,515
   Two 300kW high-power charging ports for Bulls
   Installing one public dual 300kW charging station in Bulls on SH1, enabling the newest generation of EVs to add 400km of charge in 15 minutes.

4. ChargeNet NZ $237,825
   Four 300kW high-power charging ports for Kaiwaka
   ChargeNet NZ will install two public dual 300kW charging stations in Kaiwaka in the North.

5. ChargeNet NZ $213,575
   Four 300kW high-power charging ports for Christchurch
   For two public dual 300kW charging stations in Christchurch.

6. ChargeNet NZ $237,725
   Four 300kW high-power charging ports for Auckland’s North Shore
   Two public dual 300kW charging stations will go in Smales Farm.

7. Auckland Cohaus (Surrey Crescent Cohaus) $5000
   Electric chargers for innovative Auckland housing car-share project
   Auckland Cohaus (Surrey Crescent Cohaus) is a group of individuals and families in a 20-home project in Grey Lynn, Auckland, who will buy two EVs (at their own cost) and install two slow chargers for a car-share scheme that will show how to reduce levels of car ownership, car use, and emissions in a residential development.

8. EV Transport $45,000
   Plug the Gaps - Northland
   Plug the Gaps Northland will provide three

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public 25kW DC chargers, one at each location of Mangawhai, Tutukaka and Matakohe, as crucial back-up and to complement the existing 50kW network. This will allow seamless travel for the popular Auckland/ Northland EV route. Research shows that this will be used by e-locals, e-Aucklanders and e-tourists.

9. Higgins Contractors $120,000 Installing charging stations for EV construction and road maintenance trucks Higgins Contractors will install four fast chargers enabling the team to use EV lease trucks (Auckland, Wellington, Palmerston North and Christchurch). More than 800 staff will see these working, and messaging on the trucks will encourage wider community use.

10. Northland Regional Council $34,000 Plug the Gaps - Waipu Plug the Gaps Waipu will provide one public 50kW DC fast charger as essential back-up for the popular Auckland/Kaikoura/Whangarei EV route. It will also reduce range anxiety for about 610 short range Northland EVs driving from Whangarei to Kaikoura.

11. Powersoft $17,500 Power Up Paihia Powersoft will install a public 25kW DC fast charger near the tourist town of Paihia, serving tourists and locals.

12. Big Street Bikers $200,000 Locky Dock – a secure bike parking network Big Street Bikers (BSB) will create secure dock-and-charge stations with digital way-finding for active transport modes that will accommodate up to 20 electric bikes at once at two Wellington commuter hotspots. Working in partnership with Mercury, councils and businesses, BSB hopes to drive rapid mode shift to e-bike and e-scooter commuting; reducing carbon emissions and improving wellbeing.

13. Hawke’s Bay Airport $42,000 Fly In Charge Up! Hawke’s Bay Airport will install four public 7.4kW AC EV chargers in the long stay carpark and provide secure storage for 16 e-bikes.

14. Invercargill City Council $25,000 Invercargill Central City Commuter Bike Storage Facility The Invercargill City Council will install safe and secure storage for 20 e-bikes within the Invercargill City Central Business District. This will encourage staff and the public to actively commute into central Invercargill.

15. University of Otago $31,250 Changing travel behaviour: Establishing an ebike hub facility

The University of Otago will establish a secure storage hub for 44 electric bikes and a maintenance stand, linked to workplace, commuting and accommodation. The project will gather accurate usage data and enable more effective adaptation and scaling based on human centred design.

16. Whakatane District Council $63,000 Proving the case for replacing utilities with low emission vehicles The Whakatane District Council will establish 10 public onsite slow car chargers to support an electric pool fleet, B2B visitors and public, and will also install a secure lockup and charging site for 10 e-bikes.

17. Customised Deliveries (2013) $218,060 Electrification of Customised Deliveries Auckland chilled delivery fleet

Customised Deliveries Ltd (CDL) will add two 100% electric delivery trucks to its chilled fleet for its Auckland deliveries. The project will help CDL encourage its owner drivers to electrically over time. The vehicles will be driven by a variety of drivers working two shifts, seven days per week and will demonstrate to the industry the feasibility of extended use of chilled electric vehicles for the “last mile” delivery of chilled goods (meat and dairy).

18. Davis Food Ingredients $350,787 Demonstrate eutectic technology with electric truck trial

Davis Food Ingredients will trial two large EVs with chilled, frozen and ambient storage capacity. A mix of refrigeration technologies will be employed in Hamilton and Auckland. The project combines eutectic refrigeration with an electric delivery vehicle as a new innovative technology mix.

19. Mahu City Express $200,000 Unlocking heavy EV fleets with battery leasing

Mahu City Express will partner with a specialist battery leasing company to demonstrate a hybrid ownership model to reduce the risks and costs (real and perceived) of transitioning heavy vehicles to EVs.

20. Tranzit Group $484,708 Two fewer diesels, the potential for hundreds more electric buses

Tranzit Group operates in excess of 100 BCI diesel single and double deck buses in New Zealand. The workhorses of public transport in Auckland and Wellington, two successful conversions to electric will create the option to fully electrify this entire fleet and more.

21. ChargeSmart $41,624 Distributed generation refuelling model

ChargeSmart will launch a solar/storage (at their own cost) and EV charging solution, designed to refuel two EVs, power the site, and top up EVs during power outages.

22. Critchlow Geospatial $210,000 Smart routing LEV powered by NationalMap

Critchlow Geospatial will launch its Smart Routing LEV website to provide two years’ free access to estimated operational cost comparisons for fleet operators considering switching commercial vehicles from internal combustion engine (ICE) to low emission vehicles (LEVs). The tool combines geocoded destinations, load parameters, fleet optimisation algorithms, and New Zealand’s most comprehensive transport network digital 3D model.

23. Turners Automotive Group $97,500

EVs on subscription

Turners Subscription will purchase a fleet of 10 used EVs to be offered to the public on subscription. EVs under this initiative will be priced at the same level as a comparable ICE vehicle.

24. McKay $37,547

The development of a fully electric utility vehicle

McKay will convert an end-of-line utility vehicle to electric by utilising a second-hand Nissan Leaf drive system. This will reduce carbon emissions, reduce landfill waste and help build public confidence that a larger, more versatile vehicle can be transformed into an affordable EV. In addition to the EV ute, McKay will implement a dedicated EV servicing department.
New Zealand’s largest solar project is finished.

Vector Powersmart has successfully completed the build of a 1MW floating solar installation on top of Watercare’s Rosedale wastewater treatment pond.

The landmark system contains more than 2700 solar panels and 3000 floating pontoons and is visible from the adjacent Northern Motorway on Auckland’s North Shore.

Completion of the project marks an important milestone for solar in New Zealand, Vector Powersmart general manager Rogier Simons says.

“This is a hugely significant day for the evolution of the solar market in New Zealand with the first megawatt-scale system now built,” he adds.

“Larger solar installations like this are commonplace overseas and it’s exciting to see that sort of scale delivered here in New Zealand.

“Given the drive to decarbonise and use cleaner forms of energy, this project is a milestone for New Zealand.

“It also demonstrates that solar solutions can be found even in challenging environments like wastewater treatment ponds and it’s a great use of marginal land by Watercare,” Simons says.

“I’m proud of the Vector Powersmart team for delivering this innovative project that will help our customer, Watercare, achieve its financial and sustainability goals.”

The array will be used to supplement electricity from the grid as well as cogeneration from biogas, which is already generated on-site from wastewater treatment.

The floating solar will provide about 25% of the total energy needed at the plant.

The electricity is used for pumping and aeration for natural bacteria that help break down the waste as part of the treatment process.

Vector Powersmart’s Rosedale solar plant is expected to bring about the reduction of 145 tonnes of CO2e annually – equivalent to the emissions from driving 66 internal combustion engine (ICE) cars in New Zealand.

The Rosedale solar array will be officially opened in October.

EVs and Beyond featured the project plan in September last year.
Wind is a free fuel, but do the capital costs involved in harnessing it stack up?

Mercury generation development manager, and project director of its Turitea wind farm near Palmerston North, Dennis Radich, is convinced the costs associated with generating electricity from wind are well worth it, especially when looking long-term.

And the Mercury senior manager of nearly 11 years should know. After all, he’s led the team doing the sums and putting together the business cases.

That’s even when the Turitea project with its total 63 turbines in the Tararua Ranges costs an eye-watering $465 million, with moves to develop another even windier site at Pukenoi further east nearer Pahiatua, with 53 turbines likely to bring the total cost closer to $1 billion. Together they could generate about 1700 GWh annually – equivalent to about 80% of Wellington’s annual electricity use. In other words, power enough for 240,000 homes or 760,000 EVs.

Turitea’s initial 33 turbines should be up and running on the site in the second quarter of 2021, with the remaining 27 turbines likely to be finished in the fourth quarter of the same year.

Of course, it hasn’t all been plain sailing (to use wind parlance) for Turitea. Radich joined Mercury in 2009 when it was building geothermal power stations, and his brief was to advance the company’s next layer of growth.

At that time, Turitea was undergoing a complex and protracted Board of Inquiry consenting process. The global financial crisis (GFC) hit just before consents were issued, flattening market demand.

Turitea got back on the road in mid-2017 as wind generation economics improved, with the business case approved by Mercury’s board in November 2018. Just as everything was proceeding at pace, along came COVID-19.

That meant Mercury as an essential service was working hard to get ready to build once the economics made sense for this additional investment.

Also looking good is Mercury’s investment in Australian-based company Tilt Renewables that is building the Waipipi Wind farm, a $277m, 31-turbine development near Waverley in South Taranaki.

Like Waipipi, Pukenoi can have 160-metre tall turbines, larger than Turitea’s 125-metre ones.

Improving technology means turbines can be bigger so fewer are needed to produce a similar amount of electricity. Bigger turbines also need less wind to operate.

Radich can explain all that and how it works; suffice to say the ongoing advances in technology are rapidly improving wind farms while reducing costs.

“It’s an interesting industry, with a lot moving quickly in the background,” he says.

Asked whether big batteries will be needed to store wind-generated electricity, Radich explains that Mercury’s generation portfolio will be able to pair wind generation with the hydro generation from its nine power stations on the Waikato River.

The water in Lake Taupo before it runs downhill through the power stations is like a big battery waiting to be used, and wind generation will allow this stored fuel to be used better to meet demand.

Mercury is known for being a major driver of e-mobility, including EVs and e-bikes, using renewable energy – and that’s where Radich sees Mercury’s wind farms coming more into their own.

He’s less of a fan about off-shore wind farms like those overseas, adding that the economics don’t stack up as well as on-shore wind farms – the latter well suited to New Zealand conditions.

And although there’s a market for solar power, New Zealand doesn’t have the available land and sunnier conditions Australia has for such projects.

Radich also points to differences in peak power demands between the two countries. Kiwis tend to have peak power periods in the early morning and late evening, while Australians often run air conditioning throughout the day which favours solar.

So how does Radich see the future of wind in New Zealand?

He suggests there’ll be more wind farms and more electricity generated from it.

Handy considering that New Zealand’s hydro-electric dominated market is subject to risk of dry years. A reason the government is considering options including pumped hydro at Lake Onslow in Otago.

Radich sees Mercury growing its wind generation portfolio, adding that it’s an economic, ally renewable power source for 25 or even 50 years on.

And Mercury is certainly stepping up in that field, also recording a strong overall performance during a testing 2020 financial year affected by drought and COVID-19.

The energy company recorded a net profit after tax of $207 million for the year ended June 30 – down on the prior year’s record $357m (including $270m from selling its smart metering business Metrix) – but healthy considering drought across the Waikato catchment impacted hydro generation from September.

Wind, will therefore, offer another string to Mercury’s bow.
While 67% of Kiwis would consider an EV for their next car, that figure is down on last year’s 74% - possibly because of COVID-19 hitting the economy and people’s pockets.

That’s according to Trade Me Motors head Alan Clark in releasing Trade Me’s latest annual EV survey. Nearly 3000 participated in the survey which looked at Kiwis’ EV perceptions.

“While it’s encouraging to see such a large number of Kiwis considering an EV for their next car, this is actually a drop when compared to last year,” Clark points out. He says the drop is not surprising given the impact of COVID-19 on Kiwi’s wallets and the wider economy.

“There are plenty of New Zealand households taking a look at their spending at the moment and making the switch to an electric vehicle might not stack up when they have cheaper alternatives during this uncertain time.”

Considering factors deterring participants from getting an EV, the survey shows that money is key. “The initial upfront cost of an electric vehicle was the number one reason participants said they would not buy an EV, with 69% of Kiwis seeing this as a barrier.”

Other high-ranking concerns include range (54%) and battery life (46%).

Clark expects cost to become less of an obstacle as prices drop in coming years. “While EVs have been around for about eight years now, it’s only been in the past few years that we’ve started to see the average price of an EV decrease as more second-hand EVs hit the market.”

Clark say there has been much talk about incentivising Kiwis to purchase an EV, with the government discussing a variety of subsidies.

“We expect this topic to come up again as we get closer to the [October 17] election and work towards the government’s goal of 64,000 electric vehicles on our roads by the end of 2021.”

About 22% of those surveyed would most likely purchase a hybrid as their next vehicle, compared to just 12% who said they would most likely purchase an EV.

“A further 21% said they were not sure which type of car they would buy next – many of whom might be weighing up hybrid and EV

— Continued on following page...
Clark puts this shift down to three factors – technology, practicality and price.

“With recent developments, we are seeing owners of plug-in hybrid cars now using the electric function almost exclusively, but still preferring the flexibility of being able to switch to fuel should they want to.”

Lower ongoing costs and environmental reasons were key for Kiwis buying a hybrid, but size and practicality are another priority. “With more models on the market, it is not surprising hybrids are perceived as slightly more practical,” Clark says.

“It will be interesting to see if this changes over time as EVs become more accessible.”

Hybrids are also cheaper to buy than an EV.

“In July, the average price of a hybrid was $14,122, while the average price of an EV was $17,070,” Clark adds.

He says some guessed models like the Nissan Leaf could travel 168km on a full charge when they can actually travel more than 200km.

“Educating Kiwis on this, and other perceived barriers to purchase, will be a vital consideration for the government to meet its 2021 goals.”

Those who had driven an EV before were 8% more likely to consider buying one, increasing to 13% if friends or family owned one.

“On the other hand, Kiwis were 15% more likely to buy a petrol or diesel car next if they did not have family or friends that owned an EV,” Clark says.

Participants were 13% more likely to consider an EV for their next car if they knew about the improvement in air quality globally as a result of the COVID-19 lockdown.

However, Kiwis severely underestimate EV range – similar to what an Electric Vehicle Council survey found among Australians. On average, range expectations were 43% lower than actual capability, Clark explains.

He says some guessed models like the Nissan Leaf could travel 168km on a full charge when they can actually travel more than 200km.

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Of the age groups surveyed, Millennials (74%) were the most likely to consider buying an EV, while Baby Boomers (59%) were the least likely Aucklanders (72%) and Wellingtonians (71%) were most open to EVs among the regions.

Clark says EVs may be better suited to city dwellers who have charging stations readily available and don’t need to factor in things like towing which impact on a car’s range.

Other interesting facts:

- EV watchlist ads were up by 26% in July when compared with the same month in 2019.
- EV listings were up by 1% in July when compared with the same month in 2019.
- Of the approximately 65,000 vehicles for sale on Trade Me, 4400 of those are electric.
- The average price for an EV in July was $17,070, down 1% when compared with the same month in 2019.
- The average price for a hybrid in July was flat on the same month in 2019 at $14,122.
- The average price for a plug-in hybrid in July was $31,292, up 6% when compared with the same month in 2019.
- Participants that cited brand as an important factor when they buy their next car were the least likely to consider purchasing an EV.
- 82% of Kiwis that were considering buying a car before COVID-19 are still thinking of buying or have already bought.
World EV Day was celebrated in many countries on September 9—COVID-19 pandemic restrictions permitting. However, it seems commemorations are continuing for the entire month.

An online pledge campaign launched by ABB and Green.TV leading up to World EV Day to get people to commit to making their next vehicle an EV continues.

On World EV Day, drivers from more than 60 countries made a firm commitment to transition to an EV.

The campaign encourages drivers to recognise the crucial role EVs can play in advancing sustainable mobility, making a commitment that the next car they drive will be electric.

Results show the United Kingdom leading the way with 29% of sign ups, closely followed by India (13%) and the US at 11%.

Australia has 3% of sign ups—joint seventh with Germany, while New Zealand is joint ninth with Italy on 2%.

New Zealand’s low showing is slightly at odds with the latest Trade Me Motors survey showing 67% of 3000 Kiwis who responded would consider an EV for their next car.

However, that figure is down on last year’s 74%—possibly because of COVID-19 hitting the economy and people’s pockets.

“As headline partner in World EV Day, ABB is delighted to see so many individuals from around the globe taking positive action by signing the pledge,” ABB Electrification president Tarak Mehta says.

Mehta says an ABB fleet electrification pilot has been launched, starting in the UK with other countries set to follow.

“The rapid transition to electrified, sustainable mobility has never been more urgent,” Green.TV founder Ade Thomas says.

World EV Day has attracted many partners and industry leaders in celebrating progress made in e-mobility and accelerating efforts to build greater support for EVs.

The online event has provided virtual seminars on the topics that matter, including the Green Recovery and EV marketing. Through social media and Worldedday.org, the event provides a useful hub for e-mobility resources and insight on driving an electric future.

Visit www.worldedday.org/ev-pledge for more on the EV campaign.

Meanwhile, ABB has also launched the first in a series of Smarter e-mobility newsletters outlining its leading e-mobility solutions.

A webinar about the role of EVs in Asia Pacific cities and maximising integrated urban energy system benefits was hosted on World EV Day by ABB and the Asia Pacific Urban Energy Association.

EVs and the infrastructure required to charge them have come a long way since the early days of EV adoption, say Alexandra Goodson and Alex Riley in an ABB newsletter post.

Driving ranges have increased from a median of 117.48km in 2011 to 201km in 2019, not to mention the recent reveal of the 2021 Lucid Air with an expected range of more than 804km.

Charging station numbers have also increased from less than one million in 2014 to over 7.3 million chargers worldwide in 2020. This means there is less fear among EV drivers of being stranded due to a lack of EV charging stations.

Evolving EV battery technology and growing national EV charging infrastructures are enabling EV owners to travel further with a greater sense of ease than ever before, Goodson and Riley say.

“Ten years ago, we worried about how far EVs could travel on a charge, where they would be charged, and how long it would take to charge,” they add.

“Fortunately, each of these concerns has been addressed by new technology in electric vehicles and in charging infrastructure.”

The advancement of battery technologies and their manufacturing processes has helped increase the average EV range.

Battery prices have also fallen to help EVs become more cost competitive with internal combustion engine (ICE) vehicles.

Additionally, modern EVs have batteries that can receive high-power direct current, enabling many vehicles to gain up to 96.5km of range in just four minutes of fast charging.

The average car owner travels less in a day (about 48km) than the fuel range of even the lowest EV range (93km), and owners can save time and money by charging at home or work.

Charging overnight when electricity rates are low and when the car isn’t in use can ultimately save on commute time and fueling costs.

But what about longer trips or days where the owner travels further than the range the EV’s battery can provide?

Fortunately, the charging infrastructure to make your family road trip happen is becoming more common and available in the areas where you’re most likely to need them, Goodson and Riley say.

According to a Bloomberg New Energy Finance report, vehicle sales for EVs will be 58% by 2040, and players from the big names in oil and gas as well as start-ups with high capital investors are working to install a national scale charging infrastructure.

Companies like Electrify America, ChargePoint, and Shell are installing charging stations in highway rest stops, big box stores, and even petrol stations—decreasing the average distance between chargers in the US to less than 112km.

What’s more, the road-side chargers being deployed today are high powered with liquid cooled cabling. This enables ultra-fast charging to reach 80% battery capacity in 20-30 minutes.

The charging network is targeting stations in locations where drivers can spend charging time productively.

Continued on following page...
Nine more high-power 300kW ChargeNet NZ chargers will follow the first two it recently opened at Bombay in Auckland. They are said to be the first of their kind and the fastest publicly available chargers in New Zealand.

Seven more Dual 300kW Hyperchargers will be installed in Kaiwaka, Bulls, Christchurch and on Auckland’s North Shore following funding help in Round 8 of the government’s low emission vehicles contestable fund. Taupo will also get two of them after earlier Round 7 approval from the Energy Efficiency and Conservation Authority (EECA) administered fund.

“Despite the fact, there’s no EV on the New Zealand market capable of charging at 300kW, ChargeNet is preparing for a future when more vehicles can handle higher levels of power,” company founder and chief executive Steve West says.

The Porsche Taycan is probably the first production vehicle likely to use the 300kW Hyperchargers when it arrives later this year, as it has an 800-volt system instead of the usual 400, and is able to charge to 80% in 20 minutes.

The Hyperchargers will allow EV drivers to quickly add hundreds of kilometres of driving range in the time it takes to stop for lunch and a coffee, ChargeNet NZ points out.

Each station at the Bombay Service Centre can charge two CCS vehicles at up to 300kW and one Chademo vehicle at up to 62kW, allowing charging for up to six EVs simultaneously. Specific EVs can charge six times faster than on ChargeNet’s standard 50kW stations, enabling the newest generation of EVs to add 300km of charge in only 10 minutes.

EVs which can use the Hyperchargers include the Jaguar I-Pace, Hyundai Kona, Mercedes-Benz EQC and Tesla Model 3.

“One of the most often cited pain points for EV owners is the length of time it takes to charge,” West says.

“By installing more Hyperchargers across the country, we are removing an extra barrier of uptake and accelerating EV adoption.

“Ultimately this will help New Zealanders reduce their carbon emissions and work towards the goal of New Zealand becoming carbon neutral by 2050.”

The ChargeNet NZ story began in 2015, a few enterprising Kiwis having the dream of encouraging people to turn on to EVs. Through a mix of imagination, determination, and some clever software, they’re now the largest privately owned EV charging network in the Southern Hemisphere, with a network of 196 fast charging stations available.

It takes between 10 to 30 minutes on average to recharge an EV using a DC fast charger, although many EV owners will still plug in and recharge their vehicles overnight at home. The cost of using electricity equates to about 30c a litre of petrol (compared to about $2.16 per litre of petrol at the service station).

ChargeNet NZ says it is committed to providing and maintaining a world-class EV charging network to keep New Zealand charging into the future.

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EV friendly trip routes can be found through apps like PlugShare, where stations are clearly marked, and the chargers reviewed by other app users.

With planning, and a charging infrastructure including a high number of DC fast chargers, a long distance EV road trip can not only be enjoyable but also convenient.

The level of freedom offered to EV owners is quickly approaching that of ICE.

Carbon emission free transportation is becoming a reality, and the price for entry is falling.

While there is growth to be made in the EV segment, drivers are already experiencing the benefits of EVs. The infrastructure required to support the emerging market is becoming global and more convenient.

The world of EVs is expanding to make electric transportation accessible and there is more to come.

Range anxiety is now a thing of the past! Visit https://campaign.abb.com/1/501021/2020-08-26/ry3sr3 to sign up for a free white paper “Smarter EV technology for the future”.

And visit ABB’s E-Mobility solutions https://campaign.abb.com/1/501021/2020-09-03/rzfIn5k for more information.
When you think of MG, you are probably going to reach back to the sports cars of its past - the very British MG B, MG TF, the Midget, even the MG F if you really want to be friends with your local AA man.

But expect the MG of the now and future to be a very different thing. Now part of China’s giant SAIC, MG Motor is specialising in more mainstream fare. Their local range to date includes a hatchback and two small SUVs, with more to come.

Oh and electric. Lots of electric. China’s automotive market has skewed massively electric in recent years, with nearly a million full-electric cars sold there last year. And early indications are they are rather good at it.

Case in point is today’s test vehicle, the MG ZS EV, a small electric SUV which, as it stands, has stripped the title of the lowest-priced BEV from the Nissan Leaf. The team here at Evans & Beyond think it will really open up the electric vehicle market to new buyers… but why?

The numbers quickly tell at least part of the story - a 44.5kWh battery, a 250km real world range, and all for just $50,100 for early buyers. That makes it $12,000 cheaper than a Nissan Leaf with a 40kWh battery (in fairness that is the usable capacity of the MG). Once the introductory promotion ends an educated guess is the price will rise around $5000, still putting $7000 in your pocket over the Nissan (as we went to press the price was confirmed at $55,990.) Plus, it comes with a seven-year, 130,000km warranty.

And unlike the Leaf, this lithium-ion battery is liquid cooled.

MG Motor country manager Anthony MacLean told us they have no restrictions on supply. There was a delay getting the first vehicles here due to the need to get Bosch engineers, responsible for the MG Pilot driver assistance system, down to this end of the world for compliance reasons. The first cars are built and preparing to ship, and deliveries begin in November. MacLean says 200 should arrive this year.

And you are not getting some bargain-basement specification for your money. The ZS EV comes with automatic headlights, alloy wheels, a panoramic glass roof, synthetic leather seats - don’t Tesla call them vegan? - with heating in the front, leather steering wheel, an 8-inch LCD screen with Apple CarPlay and Android Auto, keyless entry and start and alloy wheels.

I think the ZS is a sharp looker outside and in. It looks modern, without standing out, and our business manager thought the grille on the car was ‘beautiful’. Our initial impressions were also that build quality is pretty good, save for some clearly hard and ‘cheap’ feeling surfaces inside, including where your elbow rests on the door.

Interior space is pretty good for a small SUV, in fact it does not feel much smaller in the cabin than a Hyundai Kona. Rear seat space is good for two adults, as long as they are not particularly tall, and a rear-facing child seat will fit without imposing too much on the front seats. The boot is an utter standout, 470 litres in capacity with an adjustable floor. Even at its lowest level there is still room for the charging lead and cables underneath. There is no trunk.

Continued on following page...
STEADY AS SHE GOES
The ZS EV drive experience is good, but unexciting, and that is no bad thing. The motor, powering the front wheels, is rated at 105kW and 353Nm, and will run it up to 100km/h in 8.5 seconds. You never feel short of power, and it can squeal the tyres away from the line. The big lump of torque means it pulls well up hills even with a family on board. It is not, however, and nor should it be considered a quick EV.

The way it drives follows a similar theme. The ride is compliant, and the battery hung under the car, makes it feel fairly planted. The steering feels solid and nicely weighted, but it doesn’t feel particularly crisp or engaging. It’s a comfortable commuter or cruiser.

Drive is selected through a dial shifter, pretty standard these days. Regeneration can be shifted between three levels using a centre console switch marked ‘KERS’ – a term most F1 fans will remember – and there are three drive modes, ECO, Normal and Sport that just vary throttle response.

MG Pilot, the brand’s driver assistance system, is no Autopilot, but works surprisingly well. Features include lane keeping, blind spot warning, autonomous emergency braking and adaptive cruise control. It has a couple of interesting quirks – the lane keeping is quite strong and for some may feel a little aggressive, while the adaptive cruise control uses the brakes rather than regeneration system.

On top of MG Pilot, the ZS gets six airbags and electronic stability control. Officially it does not have a safety rating here, though the ZS initially held an ANCAP four-star rating for the petrol version without autonomous emergency braking. The EV has been awarded a five-star Euro NCAP rating in the same spec tested.

EFFICIENT SURPRISE
If you get the chance check out the video we have made about the ZS EV on our YouTube channel. We headed out to test how efficient the car was on road, and were surprised. A 100km urban-rural mix drive produced a 15.4kWh per 100km result – not as good as the Hyundai/Kia cars, but better than a Leaf.

Considering the bluff front and size of the car, I think that is impressive. As mentioned earlier, that makes the MG good for 250km.

When you run low it is not a bad charger either. The onboard unit is 7.4kW, while the CCS2 port allows fast charging, including above 50kW. Reports indicate that if you hit a high powered charger you will see up to a 76kW charging rate though only for a short period.

If there is a negative in this space it is that there is no charge scheduling or preconditioning system. MG indicates they may have scheduling built into a wall box at some stage.

SO HOW GOOD IS THE MG ZS EV?
It is a sold all-round offering rather than being standout in any one area to the point that I really like it. There are a few minor issues, but none that are a stop sign – especially at the launch price. The debate has begun within the EVs & Beyond office as to whether one should replace the beloved Leaf on our fleet.
MINI COOPER ELECTRIC
PLOTS ITS OWN CITY PATH

By Richard Edwards

In the electric vehicle world, especially when playing with new cars, it is tempting to expect every car to be able to do everything. I think it is a bit of a Kiwi trait - we rate our car not on how good it is on the city commute where it will spend most of its life, and more on its ability to handle the once-a-year road trip. The new Mini Cooper Electric is a car where this attitude can work against it. In a world where new EVs generally come with 40kWh or more of battery capacity, and 250-300 or more range, the Mini stands out with a modest 32.6kWh pack (28.9kWh usable) and a claimed range of 233km. That sounds like not a lot, but as Mini points out in its launch material the model is “geared for metropolitan dwellers and intra-city commutes.”

It is also not exactly expensive - in context. Based on the Mini Cooper S, at $59,990 it is just a $6000 premium over the petrol model. It is also nearly $19,000 cheaper than the i3 with which it shares its drivetrain - the battery is the same as the previous ‘94Ah’ i3 - but gives away the carbon fibre tub and 11kWh in the process.

If Mini is tempted to put the bigger battery in the Mini, I am not sure that orange is worth the squeeze.

The first models to arrive in New Zealand have been dubbed a ‘First Edition’ - Mini loves editions. It is largely as per a normal Cooper S, so inside you get sporty part leather seats, two screens, Apple CarPlay, heated front seats, funky switchgear and crazy coloured lights. Outside you get a few trim accents to indicate the Mini is very much an electric model.

It is a Mini, don’t expect it to be a family car. It is fantastic for two with luggage - just fold the rear seat, which I would describe as occasional, down.

The wheels are very cool, an asymmetric design that really stands out.

Continued on following page...
The motor, shifted to the front of the car from the rear of the i3, produces 135kW of power and 270Nm of torque. It is good for a 7.3 second sprint to 100km, and while I am not sure it feels as punchy as a petrol Cooper S, it is certainly nippy. You get Sport, Mid, Green and Green+ drive modes, equivalent to the Sport, Comfort, EcoPro and EcoPro+ in the BMW, the former giving you full power, the later sacrificing performance and climate in the interest of efficiency.

How efficient is it? Not particularly. The WLTP figure for the car is 15.2kWh per 100km, but expect higher, especially if you drive with any form of zest.

The Mini is heavier than the BMW, and not as aerodynamically slippery. On a 100km mixed urban rural drive we recorded around 18kWh per 100km, meaning a sub 200km range.

But again, does this matter? For those rushing to order, nope.

Charging is a mixed bag. The Mini’s fuel filler is replaced with a CCS2 combo port. Literature indicates a 35 minute charge time to 80%. The actual charging speed is not great, we capped out at a rate of 41kW on an ABB 50kW unit - but the smallish battery keeps times down.

A pleasing note is the installation of an 11kW onboard charger, rather than the 7.4kW unit I expected to see. This means a sub three-hour charge on an 11kW level 2 charger. A visit to the mall will likely see you roll out with 100% in normal use.

So the big question is, does it drive like a Mini? Well yes and no. It is nippy, small and great for darting through traffic and nabbing that last small carpark space. But you can’t hide the weight of the battery, and it gives the Mini that usual EV ‘planted’ feel. It means it does not feel as ‘chuckable’ as a Cooper S - but is still great in its own way.

Any other complaints? Not a lot. The ride is a little firm, and there is no adaptive cruise control as standard. Again, city car, remember!

There has been some suggestion the Mini is a compliance car, and even BMW has admitted in the past they were not originally going to do an electric version until a new shared EV platform came along. Sure, there are a few compromises in electrifying a petrol platform, but I assure you, Mini lovers reserving one just won’t care.
BMW’s ground-breaking all-electric i3, which debuted here in 2014, will influence every electric vehicle the German company produces, says BMW New Zealand managing director Karol Abrasowicz-Madej.

“We may think that i3 is coming to an end of its life cycle,” he says but when he looks at BMW’s plans, he believes “we will still have that car on the market for quite a time.”

And when BMW discontinues it, “we will have enough other electric vehicles on the market to continue the successful story of this pioneering fully-sustainable car.”

Its “soul” will live on in every electric vehicle BMW markets under its power of choice strategy, says Karol.

The strategy will offer buyers a choice of petrol and diesel combustion engine, plug-in hybrid and all-electric powertrains in the same chassis/body.

The programme starts with the iX3 SUV. It’s expected to arrive here early next year and in electric form has a range of 460km between charges.

“I’d love to see it (in NZ) this year, but I believe we need to be realistic and think about next year.” BMW will start taking expressions of interest in the car soon, but Karol won’t be drawn on likely pricing.

The iX3 will be the start of BMW’s major push into electric cars. “In the next 24 months we will definitely have a lot of electric vehicles; and by the end of 2023, our company will offer, globally, 25 electrified vehicles, half of which will be fully-electric.”

In the meantime, there’s strong interest in the “interim car, the X330e,” says Karol. It’s a plug-in hybrid with an electric operating range of up to 60 kilometres, which he says in Auckland, is “a very solid one-day of driving electric.”

New Zealanders are early-adopters, and he anticipates iX3 sales will ramp up quickly. As an example, he points to the new Mini electric. “The car is absolutely sold out and now we are getting more and more orders.”

Whether the iX3 will also be a sell-out depends on how the New Zealand economy is doing. Karol says it depends too on how well the public accepts electric vehicles and on what incentives are available to electric car buyers.

To get greater acceptance of electric cars many parties need to come together. “Like, for example, our endeavour with ChargeNet and a core development of the infrastructure of, I think, now around 120 DC chargers across the country. We’re proud that we’ve been in the game from the very beginning.”

Ideas like allowing electric cars to use bus lanes and giving them preferential parking spaces in the city will help.

And government subsidies for electric car buyers like those operating in Germany are “an appealing deal for customers.”

If everything comes together, Karol says he believes electric cars can achieve a market penetration of at least 13%.

In a market where SUVs are generally all-wheel drive, Karol doesn’t think the iX3’s two-wheel drive layout will be a hindrance, nor will the fact that it’ll be built in China.

“A lot of the SUVs that we are doing – basically, almost 60% of our total sales are SUVs – are being purchased with, we call it an sDrive, which is basically a rear- or front-drive.

“Looking at a city community like Auckland – Auckland is around 60% of the total (car sales) volume of the country – do we really need an X-drive (AWD)?”

The Power of Choice policy allows BMW to adjust supply according to customer demand. “We need to be realistic about the timeline of an uptake of electric vehicles.”

“BMWs have the same level of quality, regardless of where they’re built, Karol adds.

“We can’t afford to lose (customers’) trust. BMW customers are premium customers, and we have a responsibility to stick to the promises of a premium (brand).”

“Karol Abrasovicz-Madej

KAROL ABRASOWICZ-MADEJ
After the COVID-19 lockdown in June, Solar Group changed ownership. With the intention of expanding nationwide, owner Roeland Driessen is going full speed ahead into the world of renewable energy.

“I'd put my money on the sun and solar power,” he says. “It's an infinite power source that is free to use and the solution for the 21st century.”

Most would say that this is a huge risk to undergo. However, Driessen’s plans are huge and he has great confidence that the future is in renewable energy.

With an excellent team by his side, he knows that Kiwis will benefit from Solar Group's premium quality and cost-cutting solar systems. Whilst procuring the highest standard of solar products, it has a credible record for both performance and durability.

“At the end of the day, the sun provides free energy,” Driessen says. “Who knew that the more we use, the better it is for the environment.”

Moving forward, it's rewarding to help Kiwis build their homes into green, humble abodes, Driessen adds. "Barry, the consultant at Solar Group, promptly replied to our [solar] questions and came up with the 'best-fit' solution to reduce our power costs," one happy customer says. "Our solar system was installed in just three days. We are very happy with the outcome."

Conversely, the commercial cluster is a huge part of the equation. "The solar system has exceeded our expectations," says another customer. "As a result of this, we decided to go for an additional 10kW system."

Solar Group takes pride in its operations, sourcing its own solar systems and training its own solar technicians. This method of operation means that the client is given the most transparent and smooth sailing experience.

“Our new building will celebrate our ability to recover, renew, and lead. This is a response to our commitment to reduce our environmental footprint and innovate toward the future.”

The company has installed the most solar systems in New Zealand since operations began in 1986. This has uncovered immense opportunities in the industry for the team along with the potential the nation has to go greener. Currently, only 0.2% of New Zealand's electricity is solar-powered. However, we have more than enough roof space to power the entire country, Solar Group says.

Since the increase in electric vehicle usage, solar power has grasped the attention of drivers given that EVs consume a significant amount of energy. These sustainable systems stand New Zealand in good stead as it is a cost-effective and a forward-thinking way of living, as solar is getting cheaper and on-grid electricity is getting more costly.

With the world adjusting to the "new norm", working from home has increased dramatically. Evidently, this adjustment indicates an increase in electricity bills, and this has prompted the nation to be more self-sufficient.

The world is moving toward greater technological advancements, Solar Group says. "And what better way to move forward than to do it like a tidy Kiwi."

EV policies welcomed but action plan needed

E V advocacy group Drive Electric reckons politicians need to get an EV action plan sorted after both National and Labour released their election policies around EVs and clean energy respectively.

“To meet New Zealand’s legislated climate ambitions, our analysis shows we need to see at least 250,000 new EVs on the roads by 2025, and for this trend to continue through to 2030,” Drive Electric chair Mark Gilbert says.

“What we really need in New Zealand is an ambitious bipartisan roadmap to decarbonise the light fleet in line with the Zero Carbon Act, detailed in a New Zealand Motor Industry Plan. In New Zealand, the light fleet constitutes more than 90% of the travel on New Zealand roads, and remains a growing component of our nation’s emissions.

“We can’t leave a transition to chance,” Gilbert says.

“Unless we have a consistent policy roadmap that deliberately moves New Zealand towards EVs, we will lock-in the importation of second-hand fossil fuel powered cars from markets like Japan and the UK as they decarbonise.”

Drive Electric congratulates the National Party for its policy announcement, including specifying a target of 80,000 EVs on the roads by 2023.

“Hitting these numbers would mean progress. The proposal on FBT, in particular, is a real step forward,” Gilbert says.

“NZTA data for 2019 shows that almost 60% of new passenger cars were bought by companies. Incentivising the corporate fleet to transition, through initiatives like this and access to bus lanes and high occupancy lanes, is a vital way to introduce EVs into the country.

“We would like the next Government to go a step further and work with the industry to detail how New Zealand will then get to 250,000 EVs by 2025, and then move to decarbonise the entire fleet.”

Drive Electric also welcomes Labour’s recommitment to the Clean Car Standard. However, this is just one element of a roadmap towards a light vehicle fleet that does not emit carbon, Gilbert says.

A standard needs to be supported by additional measures to enable businesses and consumers to move into emissions-free vehicles, he explains.

“Perversely, without actively encouraging consumers to switch to EVs through tax or other incentives, a clean car standard makes it more likely New Zealanders will buy cheap, second-hand petrol cars exported from Japan or the UK, instead of EVs.

“This will lock in the number of petrol cars on New Zealand on roads for longer, making it more difficult to meet our climate change ambitions.”

New Zealanders need to understand the future must be electric, so they can take this into consideration when they buy their next car, Drive Electric points out.

“The abundance of renewable energy in New Zealand means the owner of an EV here can charge their vehicle at home for as low as 30 cents a litre.”

In August, Drive Electric announced five key policy platforms in an EV discussion document. Drive Electric is probably right, says Auckland City Electric Vehicles general manager Hadley Hargadon after National unveilled its EV plan at ACEV’s Takapuna premises.

Hargadon says standouts for him in National’s plan included extending the road user charge (RUC) exemption, and adding a fringe benefit tax exemption to drive fleet EV uptake which he sees benefiting the entire industry, providing supply of second-hand EVs to the market, for instance.

EVs using special lanes at motorway access points was trialled before in Auckland but fewer EVs were around at the time – that now changing, Hargadon believes. The NZ Transport Agency did a 14-day trial in March 2017 on using special lanes for EVs and hailed it a success. However, the NZTA cut a year-long trial in 2018 because most EV owners said using special motorway on ramps wasn’t a factor in their EV purchase decision, although access to more on ramps and other lanes could make owning an EV attractive.

The NZTA trial also found EV owners were more concerned about the environment and lower running costs than using bus or special lanes.

Auckland Transport doesn’t like EVs using bus lanes, mainly because of possible difficulties with buses stopping and starting, and prefers that EVs use T2 and T3 lanes.

National’s EV plan would see EVs exempt from fringe benefit tax (FBT) until 2025 to encourage fleet uptake, and a road user charge (RUC) exemption extended to at least 2023 under a National government.

It also includes setting a target of 80,000 EVs on the road by 2023 (four times the current level), allowing EVs to use bus lanes and high-occupancy lanes, and aims to have a third of the government light vehicle fleet in EVs by 2023.

The party’s EV package estimates the fiscal impact at $93 million over four years. This includes $55m over four years in lower revenue from exempting EVs from FBT and $38m over four years in electrifying the Government fleet.

A National Government will make EVs cheaper and reduce transport emissions through its “ambitious” EV plan, says National Party leader Judith Collins in announcing the policy alongside National’s transport spokesperson Chris Bishop and associate environment spokesperson Erica Stanford.

“We’re committed to addressing the issue of our transport emissions in a practical and effective way,” Collins says.

“This ambitious plan will make EVs cheaper and easier to own without unfairly taxing Kiwis.

“We believe the future of transport in New Zealand will be zero emissions. Our ambitious and comprehensive plan will encourage the purchase of EVs, create a thriving second-hand EV market, support sustainable transport infrastructure, and lower carbon emissions in New Zealand’s transport sector.”

Bishop says transport emissions are the largest driver of increasing greenhouse gas emissions in New Zealand, having doubled since 1990.

“Labour has failed to deliver a single new policy to increase EV uptake. Their abandoned car tax actually slowed EV sales and, if implemented, would have punished those who could least afford it.

“Exempting EVs from fringe benefit tax will significantly bolster the second-hand market by giving Kiwis access to New Zealand-new, longer range, late model EVs.”

Stanford says National’s policy package is practical, supported by the sector and will deliver immediate positive benefits.

National believes more can be done to allow the shift to fully electric, plug-in hybrid (PHEV) and hydrogen vehicles (FCEVs) sooner, its two-page EV plan states, possibly including extending the RUC break for six years rather than three.

New Zealand has more than 22,000 EVs, representing about 0.6% of the light passenger fleet, but that growth is slow and has been impacted by the Labour-led government’s Clean Car scheme, particularly its “feebate” proposal, it adds.

“The policy was poorly targeted with most of the money going to drivers of smaller petrol cars rather than EVs.”

The EV plan says EV sales growth slowed while buyers “waited for a rebate that would never materialise”.

A new EV licence plate will be introduced by National for ease of identification and to allow EV users to access bus lanes and high-occupancy vehicle lanes, which National says it will implement immediately on state highways, and work with councils to have it in cities if elected after October 17.
FIND YOUR NEW EVS HERE!

NEW EV CAR TYPES

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<tr>
<th>MAKE</th>
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<td>i3 - Range Extender</td>
<td>PHEV</td>
<td>$74,500</td>
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<tr>
<td></td>
<td>i3s</td>
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<tr>
<td></td>
<td>i8</td>
<td>PHEV</td>
<td>$101,200</td>
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<td>i8 2018 Coupe</td>
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<td>$169,200</td>
<td>55 km + 400 km</td>
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<td>i8 2018 Roadster</td>
<td>PHEV</td>
<td>$109,900</td>
<td>53 km + 400 km</td>
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<tr>
<td></td>
<td>230e iPerformance</td>
<td>PHEV</td>
<td>$89,800</td>
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<td>$91,600</td>
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<td>PHEV</td>
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<td>740e</td>
<td>PHEV</td>
<td>$202,700</td>
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<td>Niro</td>
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<td>PHEV</td>
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<tr>
<td><strong>Mercedes Benz</strong></td>
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<td>$94,200</td>
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<td>C350e e Estate</td>
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<td>E350e SEDAN</td>
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<td>GLE500 e</td>
<td>PHEV</td>
<td>$149,900</td>
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<td></td>
<td>S500 e</td>
<td>PHEV</td>
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<td>XC90</td>
<td>PHEV</td>
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<tr>
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<td>XC60 T8</td>
<td>PHEV</td>
<td>$94,900</td>
<td>40 km + 600 km</td>
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BEV - Battery Electric Vehicle
PHEV - Plug-in Hybrid Electric Vehicle

**EV FRANCHISE DEALER LIST**

<table>
<thead>
<tr>
<th>NAME</th>
<th>ADDRESS</th>
<th>CITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>FARMER AUTOVILLAGE</td>
<td>116 Hewletts Road, Mount Maunganui</td>
<td>Tauranga</td>
</tr>
<tr>
<td>HYUNDAI</td>
<td>Energy Motors</td>
<td>New Plymouth</td>
</tr>
<tr>
<td>MERCEDES BENZ</td>
<td>Energy Motors</td>
<td>New Plymouth</td>
</tr>
<tr>
<td>Tata Motors</td>
<td>Energy Motors</td>
<td>New Plymouth</td>
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<tr>
<td>VOLKSWAGEN</td>
<td>Energy Motors</td>
<td>New Plymouth</td>
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<tr>
<td><strong>AUDI / HYUNDAI / VOLKSWAGEN</strong></td>
<td>Farmer Auto Village</td>
<td>07 578 6017</td>
</tr>
<tr>
<td></td>
<td><a href="mailto:info@farmerautovillage.co.nz">info@farmerautovillage.co.nz</a></td>
<td>116 Hewletts Road, Mt Maunganui</td>
</tr>
</tbody>
</table>

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### USED EV CAR TYPES

<table>
<thead>
<tr>
<th>MAKE</th>
<th>MODEL</th>
<th>TYPE</th>
<th>PRICING RRP</th>
<th>APPROX RANGE</th>
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<tbody>
<tr>
<td>BMW</td>
<td>13 - 22 kWh</td>
<td>BEV</td>
<td>$33k - $45k</td>
<td>120 km</td>
</tr>
<tr>
<td></td>
<td>13 - 33 kWh</td>
<td>BEV</td>
<td>$65k - $65k</td>
<td>200 km</td>
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<td>Hyundai</td>
<td>Ioniq</td>
<td>BEV</td>
<td>$47k - $55k</td>
<td>220 km</td>
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<tr>
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<td>Ioniq Elite</td>
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<td>Kona</td>
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<td>BEV</td>
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<td>Mercedes</td>
<td>B250 e</td>
<td>BEV</td>
<td>$44k - $47k</td>
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<td>i-Miev</td>
<td>BEV</td>
<td>$81k - $113k</td>
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<td>B-Miev Van</td>
<td>BEV</td>
<td>$115k</td>
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<tr>
<td>Nissan</td>
<td>Leaf Generation 1</td>
<td>BEV</td>
<td>$9k - $16k</td>
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<td>Leaf Gen 2 - 24 kWh</td>
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<td>Leaf Gen 2 - 30 kWh</td>
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<td>Leaf ZE 1 - 40 kWh</td>
<td>BEV</td>
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<tr>
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<td>e-NV200 - 24 kWh</td>
<td>BEV</td>
<td>$27k</td>
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<td>e-NV200 - 40 kWh</td>
<td>BEV</td>
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<tr>
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<td>Zoe 40 kWh</td>
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<td>$27k - $60k</td>
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<tr>
<td></td>
<td>Kangoo ZE Van</td>
<td>BEV</td>
<td>$43k - $44k</td>
<td>140 km</td>
</tr>
<tr>
<td>Smart</td>
<td>Fortwo</td>
<td>BEV</td>
<td>$20k</td>
<td>100 km</td>
</tr>
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<td>S P85D</td>
<td>BEV</td>
<td>$19k - $310k</td>
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<td></td>
<td>S 90D</td>
<td>BEV</td>
<td>$155k</td>
<td>420 km</td>
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<td>X 75D</td>
<td>BEV</td>
<td>$110k</td>
<td>340 km</td>
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<tr>
<td></td>
<td>X 90D</td>
<td>BEV</td>
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<td>X 100D</td>
<td>BEV</td>
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<td>X P110D</td>
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<td>Q7 e-tron</td>
<td>PHEV</td>
<td>$195k</td>
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<td>BMW</td>
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<tr>
<td></td>
<td>13 REX - 33 kWh</td>
<td>PHEV</td>
<td>$56k - $81k</td>
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<tr>
<td></td>
<td>225e</td>
<td>PHEV</td>
<td>$47k</td>
<td>41 km + 550 km</td>
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<td>330e</td>
<td>PHEV</td>
<td>$58k - $71k</td>
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<td>PHEV</td>
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<td>X5 xDrive40e</td>
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<td>i8</td>
<td>PHEV</td>
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<td>$72k</td>
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<td>$32k - $75k</td>
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<td>PHEV</td>
<td>$130k</td>
<td>30 km + 700 km</td>
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<td>E350 e</td>
<td>PHEV</td>
<td>$120k</td>
<td>30 km + 600 km</td>
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<td></td>
<td>550e e</td>
<td>PHEV</td>
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<tr>
<td>Porsche</td>
<td>Cayenne S e-hybrid</td>
<td>PHEV</td>
<td>$129k</td>
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<td>Toyota</td>
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<td>$11k - $23k</td>
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<td>PHEV</td>
<td>$115k</td>
<td>40 km + 600 km</td>
</tr>
<tr>
<td></td>
<td>XC90 T8</td>
<td>PHEV</td>
<td>$115k</td>
<td>44 km + 600 km</td>
</tr>
</tbody>
</table>

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

### USED DEALERS LIST

<table>
<thead>
<tr>
<th>NAME</th>
<th>CITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Autolink Cars</td>
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<tr>
<td>GVI Electric</td>
<td>Auckland</td>
</tr>
<tr>
<td>Harwood Cars</td>
<td>Auckland</td>
</tr>
<tr>
<td>Auckland City Electric Vehicles</td>
<td>Auckland</td>
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<tr>
<td>Volt Vehicles</td>
<td>Auckland</td>
</tr>
<tr>
<td>Hamilton EV</td>
<td>Hamilton</td>
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<tr>
<td>Drive EV</td>
<td>Taupo</td>
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<tr>
<td>Coventry Cars Hybrid &amp; Electric 04 384 4356</td>
<td>Wellington</td>
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<td>Christchurch</td>
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<td>Metro Christchurch</td>
<td>Christchurch</td>
</tr>
<tr>
<td>Auto Court</td>
<td>Dunedin</td>
</tr>
<tr>
<td>The Electric Motor Vehicle Company</td>
<td>Invercargill</td>
</tr>
</tbody>
</table>

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EV ROADTOUR STARTS
SEPTEMBER 26

The annual Leading the Charge RoadTour from September 26 to October 3 features separate EV tours of the North Island and South Island this year.

The event, coinciding with International Drive Electric Week and organised by the Better NZ Trust, has seen some planned site visits cancelled because of delays to the various projects caused by COVID-19 pandemic restrictions.

These include a visit to see Wellington’s electric ferry, a wind farm and a geothermal site, while some other stops over like viewing Christchurch-based Electric Air’s Pipistrel training aircraft, Shemore Dam, and Queenstown’s electric Showerhead jetboat are still planned.

Both island routes cover about 1700km – “so it’s not onerous or arduous,” says Better NZ Trust chair Kathryn Trounson, who expects EV drivers and passengers will have “a jolly good time”.

“It’s more like an EV holiday or rally this year,” she adds.

The North Island tour starts in Auckland and takes in a loop covering New Plymouth, Whanganui, Upper Hutt and returning either via Featherston in the Wairarapa or the Kapiti Coast, stopping at Taupō, Taupo and taking in the Coromandel and Thames before arriving back at Greenlane in Auckland.

Trounson expects many new Tesla Model 3 owners to join the tours, with about 14 EVs carrying 21 people due at the New Plymouth stop.

“Half the cars are Tesla Model 3s with a Tesla X, a Tesla S, three Hyundai Kona Electrics and two Nissan Leafs,” she says.

One Model 3 will leave the North Island tour at Upper Hutt and take the Cook Strait ferry to Picton to join up with the South Island trippers, travelling as far as Queenstown.

Steve West is providing road trippers with free charging at the ChargeNet NZ sites, which Trounson says the Better NZ Trust really appreciates.

ChargeNet representatives West and James Cozens are also doing the South Island loop, leaving company communications manager Bailey Gorst to accompany the North Island road trip back.

The South Island loop starts in Dunedin and covers Christchurch, Kaikoura, Blenheim, Nelson, the West Coast, Darfield, Geraldine, Twizel, Queenstown and back to Dunedin.

About eight EVs carrying 16 people have so far been confirmed for the South Island trip which includes three Tesla Model 3s, a Model X, a Model S, two Konas and a 30kW Leaf.

Some travellers may drop in on family or friends on the way – a subtle way to show EVs can travel distance in comfort, style and very economically, Trounson says.

She says the tours show EVs in their true element – on the road.

The Leading the Charge road trip started in the 2014-15 Christmas holidays as a way to promote EVs and educate the public about them, with crowds at many stopovers.

Since 2019, EVs have become a household term and most people have seen them so they are no longer the novelty they once were – yet we still have EV owners who want to keep the road trip tradition alive, the trust says.

“So this year it’s all about the EV community.”

For more information contact kathryn@betternz.org for the North Island tour or Martin Kane on martin@betternz.org for the South Island trip.

TESLA BATTERY DAY ANNOUNCEMENTS EAGERLY AWAITED

“Exciting things” are promised by Tesla chief executive Elon Musk for Tesla Battery Day on September 22.

That’s fuelled speculation Tesla may be announcing its Roadrunner project around battery cell manufacturing, along with an associated Model S “Plaid” powertrain reported to have three electric motors with more power and speed, coming in above the Model S.

But the scope could be much larger since the production volume and cost.

Elon Musk recently did a drone flyover of the Roadrunner facility close to the Fremont factory, showing work continuing with an extension dubbed the Magic Cube at the top of the Kato Road building which is of unknown purpose.

It’s suggested the Roadrunner facility will have 45 research and development employees and up to 425 manufacturing workers, with Tesla advertising battery cell manufacturing-related job listings for the site.

It’s also predicted a “million-mile” battery will be revealed on Battery Day too, according to Electrek.

It revealed Tesla’s secret Roadrunner project earlier this year, saying it comprises Tesla’s in-house designed battery cell manufacturing system to increase production volume and reduce cost.

The EV automaker also built a “Tera battery manufacturing facility” next to its Fremont factory in California to house the project, Electrek states.

“The new battery manufacturing system is expected to be the main focus of the event, but the scope could be much larger since batteries enable most of Tesla’s products.”

Adding a lightning bolt emoji at the end of his tweet.

He has previously hinted at more powerful batteries with greater range, and even indicated when discussing electric aircraft that batteries that carry 400 kWh per kilogram could be mass produced in a few years.

Live video webcasts of Battery Day will be available for public viewing.

For more information contact kathryn@betternz.org for the North Island tour or Martin Kane on martin@betternz.org for the South Island trip.

The Battery Day event at 2.30pm (Pacific time) will be live-streamed, Electrek reports.

At the event, Tesla is expected to outline its plan to secure battery cell supply to support its ramp-up of EV production.

Tesla’s Palladium project, which involves not just a new powertrain for Model S and Model X, but also body modifications, may be revealed on Battery Day too, according to Electrek.

The EV automaker recently did a drone flyover of the Roadrunner facility close to the Fremont factory, showing work continuing with an extension dubbed the Magic Cube at the top of the Kato Road building which is of unknown purpose.

It’s suggested the Roadrunner facility will have 45 research and development employees and up to 425 manufacturing workers, with Tesla advertising battery cell manufacturing-related job listings for the site.
Thirteen Hiko Pulse e-bikes worth about $2395 each have been gifted to residents in a new development on Auckland’s North Shore.

They are part of a gift pack from Ngati Whatua Orakei property development and investment arm, Whai Rawa, for residents in its housing project on former New Zealand Defence Force land at Belmont near Takapuna.

A woven gift basket for each household included an Auckland Transport Hop card loaded with a small travel amount for use on public transport like the nearby Bayswater ferry service, a helmet for the e-bike, some cafe goodies and more.

The gifts are to welcome residents to the project, with about seven hectares being developed there with 10 terraced homes, a duplex and one stand-alone home included so far.

Maori iwi development principles of kaitakitanga and manakitanga have been introduced to the area to show how an iwi developer can embed new values in property development.

Residents moved in just after Auckland’s COVID-19 level 3 restrictions, since reduced a notch to 2.5, and have been given instruction on how to safely use their Hiko Pulse e-bike by Big Street Bikers (BSB) co-founder Andrew Charlesworth and BSB Rechargery crew member Rory Hunter.

The first resident to attend the September 8 training sessions – separated into small groups at different times because of level 2.5 restrictions – was Rosanne and her son Aston.

She’d never ridden an e-bike before so was keen to learn how to use the Hiko Pulse which she hopes to ride on her short commute to Takapuna.

Another reason for residents getting the e-bikes is so they can use them on nearby pathways.

“We’re committed to building more sustainable communities,” Ngati Whatua Orakei Whai Rawa culture and external relations head Anahera Rawiri says.

“By providing the e-bikes, we hope to encourage people to explore alternative modes of transport for commutes and recreation while avoiding the traffic congestion on Lake Road.

“We wanted to minimise impact on the area and hopefully get people out of cars and on to bikes,” she says.

Rawiri says e-bike riders can use them for shopping, reaching the nearby Bayswater Marina and ferry, for their work and other uses.

She says the intention is to roll out more as some 300 homes are expected to be built in the Belmont area during the next 10 years.

The premium development is the first of its kind and Rawiri says the hapu owns 22ha on the North Shore with similar housing projects planned for the future.

Charlesworth says BSB is also rolling out secure bike park and charge docks around the country to support the rapid growth in e-bikes.

He is keen to be involved in doing further e-bike projects of this nature, especially as an increasing number of developments cater for EVs, e-bikes and other e-mobility forms.

---

**IS YOUR BUSINESS READY TO GO ELECTRIC?**

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**PLANNING FOR AN INTELLIGENT TRANSPORT FUTURE**

A GMs can be dull, but there were definite highlights at the ITSNZ Digital AGM on September 3.

Connecting via Zoom was a new format, but members and prospective members still tuned in to hear how we’d hit objectives, reviewed and refreshed our strategy for the next two years, and to hear new insights on membership and the Young Transport Professionals (YTP) initiative.

Formalities were minimal as this was not a voting AGM, so reports from chair Mike Rudge and president Stephen Hewett checked the official boxes off before Amy Strang, Armin Guttke and I stepped up to talk to the details of events, new branding and membership plans.

Chair Mike Rudge acknowledged the challenge of COVID-19, which has created a significant test for some in our sector. For the organisation it resulted in cancellation of the T-Tech Conference, a major setback. To account for this we’re offering discounts to members to encourage their continued support.

The disruption of COVID-19 led ITSNZ to take on the challenge of web-based events, with great results.

The T-Tech Speaker Series was launched with Lee McKenzie’s effort and has featured world-renowned transport leaders who have examined the latest thinking and examples of transport solutions.

The next T-Tech Speaker event is examining Vehicle to Grid (V2G) which should appeal to EVs and Beyond readers.

It has been encouraging to see that in spite of COVID-19 and alert level changes, the ITSNZ membership continues to grow.

Rudge discussed the finances, which remain healthy despite some big investments last year at the World Congress in Singapore and in growing T-Tech. We have examined expenditure and set practical, affordable activity goals.

Before discussion on the Strategy and Business Plan, Stephen Hewett updated attendees on international events which have been shuffled.

The ITS Asia-Pacific Forum will go ahead in Brisbane in April, while the World Congress will take place in Hamburg next year, then LA will get its turn in 2022 before Suzhou China in 2023.

Hewett announced that we intend to begin campaigning to host the ITS Asia-Pacific Forum again, last held in New Zealand in 2013.

The new Strategy and Business Plan, downloadable from the website, sets out our objectives for the next two years.

We have listened to members, holding a workshop in late 2019, and in membership meetings since. We’ve also taken into account the challenges of COVID-19.

Hewett led the development of the Strategy and Business Plan with input from the board and, in particular, Lee McKenzie was instrumental.

With our Academia board members, Helen Fitt and Doug Wilson, research has an increasing focus as does increasing activation and support of our Young Transport Professionals initiative led by Armin Guttke and Amy Strang.

As is our mission ITSNZ will continue to drive the future transport conversation to help achieve safer, more effective and sustainable transport outcomes for New Zealand.

We will be highlighting New Zealand’s achievements, advocating and collaborating for better solutions through knowledge-sharing, building valuable relationships with the wider industry and harnessing the expertise of the global ITS community.

The four key strategy areas for ITSNZ are:

1. To increase membership involvement, value and growth.
2. To strengthen ITSNZ to support increased activity.
3. To assert ITSNZ as the peak body for future transport solutions.
4. To position New Zealand as a great country for the development and testing of transport innovations.

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**GOLD members**

- Ministry of Transport
- NZ Transport Agency
- Fulton Hogan
- Stantec
- Lebeca
- Resolve Group
- Aurecon
- Kapsch

**silver members**

- SICE
- CSL
- Resolve Group
- Aurecon
- Kapsch

**JOIN THE FUTURE TRANSPORT CONVERSATION**

Continued on following page...
ITS New Zealand leads the Future Transport conversation, promoting research, development and adoption of solutions for safer, more efficient and sustainable transport.

EVENTS

September 23
Intelligent Transport Careers
(Online)
5.30-6.30pm
Featuring Kathryn King, NZTA; Karen Fehl, Resolve Group; Luke Kreig, GHD; Ryan Cooney, Downer.

October 7
YTP Innovative Transport Entrepreneurs
5pm-7pm
Featuring Victoria Carter, NZTA; Dr Mahmood Hikmet, Ohmio; Cleve Cameron, Big Street Bikers; Shannyn Hiroti, Mooven.

October 8
Vehicle to Grid: Dr Ben Sovacool, University of Sussex (Online)
9am
One of the world’s leading new energy systems policy experts explores the barriers and potential of Vehicle to Grid (V2G), a driver to accelerate EV uptake.

ARMIN GUTTKE APPOINTED VICE-PRESIDENT OF MEMBERSHIP
Announced at the AGM was our appointment of vice-president, membership, Armin Guttke.
He will help lead a more focused membership strategy to support growth and diversification of our membership.
Guttke will be working with the board to ensure activities support the various segments that make up our membership, including technology developers and suppliers, mobility and automotive sector, transport consultants, engineers and government.
Guttke was co-opted onto the board earlier this year as a Youth and Diversity Ambassador and, with Amy Strang, has launched the YTP initiative.
He has recently completed a membership review and high-level strategy for membership support and development.
Through this project, new members and stakeholders will now be able to better visualise the ITS landscape in New Zealand.

YTP ADOPTS NEW VISUAL IDENTITY AND TE REO NAME ‘TE WAKA RANGATAI’
A significant highlight of ITSNZ’s recent achievements is the Young Transport Professionals Initiative, which continues to gather momentum.
Amy Strang and Armin Guttke used the AGM to communicate their vision, announce their committee development and highlight upcoming events as well as to reveal a new visual identity.
Creating their own identity is a key step for the initiative as they have grown to nearly 90 members and appoint a committee to further activate their vision.
Amy Strang says: “We are excited to reveal the new logo and te reo name which embody the YTP vision and identity.
“We chose to incorporate a te reo name to represent the diversity in our group and to make our brand uniquely Aotearoa.
“We then, with the help of our members, chose the name Te Waka Rangatai which translates to the youthful/young people canoe, which we are all in together.
“The logo icon was designed to loosely show the letters YTP. It incorporates three koru, or baby silver ferns, while the ITSNZ logo icon shows an adult silver fern, so our three koru represent that we are the new generation of ITSNZ.”
The icon also shows networking and interconnectedness through its intertwining shape.
“We chose a modern colour palette with a gradient on the letters Y, T and P which gives a feeling of looking towards the horizon. The text is also slanted forward showing movement and forward thinking.”
The YTP events, including a careers event targeting university students on September 23, have made a significant contribution to the overall events activity for ITSNZ.
We have had great feedback and look forward to supporting the Transport Innovators event series in Auckland, Wellington and Christchurch. This series will be the first non-digital YTP events and will further strengthen the YTP profile across the main centres.

YTP committee appointed
Since the AGM, Guttke and Strang have appointed the Young Transport Professionals committee.
We congratulate the new committee members:
• Shannyn Hiroti, Mooven (AKL)
• Dhanush Laxman, Aurecon (AKL)
• Kaitlyn Stringer, MOT (WGTN)
• Stephanie Gregor, MTA (WGTN)
• Alvin Li, Transpower (WGTN)
• Sam Clezy, BECA (CHCH)
• Amelia Samandri, University of Canterbury (CHCH)

Minutes from the AGM, the chair’s report, the business plan, news of the logo and committee appointment are all available on ITSNZ.org in more detail.
Auckland’s COVID-19 level 3 restrictions weren’t good for business there, but EV dealerships in other parts of the country under level 2 generally fared better. And EV sales in Auckland are picking up now that restrictions are lifting, with EV pledges for World EV Day to make the next vehicle an EV also expected to help boost trade.

If all New Zealand moves to level 1 later in September as expected – COVID cases permitting – then EV sales would be expected to pick up more during the current month. Trading for the Genuine Vehicle Imports Group in August was “frustrating” for GV general manager Hayden Johnston.

“We were set up for a record month and then had the legs cut out from under us,” he says. “We had a strong run of EV and PHEV sales to start and finish the month, but things dropped off considerably during level 3.”

Johnston says EV stock in Japan remains limited with prices on quality stock continuing to hold firm and some models like the 40kWh Nissan Leaf and Mitsubishi Outlander PHEV increasing further with pressure from other export markets.

“Hopefully, the incoming new government will return some focus to increasing EV uptake once they have got the economy back on track and reinstated the population’s confidence and freedoms.”

August was “fantastic” for Hamilton Electric Vehicles dealer principal Nicholas Down. “Bigger than July, and we thought that was a record month,” he says. “Very exciting times when you provide amazing value as they just line up in droves.”

September has been frustrating for Down though, because of several boat delays and stock still on the water, most of which has sight unseen deposits already paid.

Down reckons the shift in attitude towards EVs is already impacting on some internal combustion engine (ICE) dealerships.

“I commented in the last EVs and Beyond edition on the issues around the targets and lack of government action,” he says. “Sadly, as we get closer to the election, they are still lacking policy and ideas around what should be done to achieve the target they set.

“Massive action is what is required, take a look across the ditch and see there is a startling example of good to great ideas,” says Down, referring particularly to the ACT Greens’ EV plan which includes a $50 million incentive fund.

For World EV Day, Down says Hamilton Electric Vehicles signed off a multi-million-dollar deal to take electric commercial vehicles forward in a joint partnership with an Australian company and another in China.

August was mild with a quiet period during Auckland’s level 3 lockdown distracting people from their daily lives, according to EV City’s Dave Boot of Christchurch.

But he says September is “on fire” for EV sales, although no political promises around EVs prior to the October 17 general election appear to be coming.

Petrol prices remain low enough to prevent people making the switch, Boot believes.

“He’s not that keen on EV incentives coming via the government anyway, saying there’s not the supply and availability of new or used EVs to suit what some politicians want.”

“The Clean Car Discount would have simply inflated prices as demand surged past supply.”

Martin Harwood of Auckland’s Harwood Cars says EV sales and enquiries have just picked up with many people appearing to wait for Auckland’s level 3 lockdown to finish.

He agrees fuel prices earlier in the month may have affected some people’s decisions about making the move to EVs and that a few may also be waiting to see if any EV incentives come before or after the October 17 election.

Harwood says he’ll be glad to see this COVID afflicted year end and that hopefully everyone can start afresh next year.

Auckland’s Autolink Cars managing director Henry Schmidt is in the midst of shifting the dealership to No. 2 Gilleys Avenue in Newmarket where he will have an indoor showroom – just opposite the Newmarket Vector charging station – with the Grey Lynn yard planned for terraced housing.

He says the latest EV registration figures showing used light pure electrics going up 186 from 11,602 in July to 11,788 in August isn’t that great.

EVs and plug-in hybrids (PHEVs) rose by 451 in August – from 21,568 in July to 22,019, latest Ministry of Transport registrations show.

By comparison, July EV registrations were 470 up while the country was at alert level 1, and 356 up in June when New Zealand had just moved from level 2 to level 1 on June 8.

EV and other vehicle sales had dropped right off during lockdown level 4 restrictions from March 25 to April 27.

Back to the August EV figures and used light pure electrics led the charge again, going up 186 from 11,602 in July to 11,788 in August.

Next were new light pure electrics, up 129 from 186 from 11,602 in July to 11,788 in August. By comparison, July EV registrations were 470 up while the country was at alert level 1, and 356 up in June when New Zealand had just moved from level 2 to level 1 on June 8.

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Used light PHEVs followed – up 76 from 1914 to 3314 to 3372.

“Sales are picking up after Auckland’s level 3 lockdown and hopefully we’ll get a good September,” Schmidt adds.

He says it remains difficult to get quality secondhand EVs from Japan and he’d like to bring in some other brands of EVs such as the Hyundai Kona and Ioniq, and the Volkswagen eGolf.
NISSAN LEAF TOP OF THE POPS FOR EVS

The Nissan Leaf still holds the title as the most popular EV on sale at Trade Me Motors, followed by the BMW i3.

In August, the number of EV listings onsite were flat when compared to July and watchlists dipped 11% month-on-month, Trade Me Motors head Alan Clark says. Much of that is attributable to Auckland’s COVID-19 level 3 restrictions during the month.

The average price of an EV on Trade Me Motors was $30,056 in August. Clark says Trade Me Motors’ annual survey shows two in three Kiwis are considering buying an EV for their next car, although a recent World EV Day global pledge shows only 2% of New Zealanders would make their next vehicle an EV.

The Leaf remains the most popular used EV by a country mile in the latest sales figures, with 180 August sales out of a total of 194. It’s also well up in the new EV stakes with 28 sold in August – just behind the Tesla Model 3 at 32 and ahead of the Hyundai Kona Electric’s 18 – with year-to-date (YTD) sales in third spot at 104.

The Tesla Model 3 continues to lead the new EV list in both monthly and YTD sales with 275 YTD. Hyundai’s Kona Electric is second in YTD sales with 153.

The Mini Hatch is fourth in August sales with 14, but down the list in YTD sales on 29. Favourite status continues to be enjoyed by the Mitsubishi Outlander in both new and used PHEV categories.

It’s streets ahead of any others in the new sales stats with 31 for the month out of 60 and 280 YTD from a total 503.

In the second-hand space the Mitsubishi Outlander PHEV leads with 43 out of a total 78, the Toyota Prius second with 22 sales in August.

So, what has the August market been like for EVs and how is it shaping up in September?

Down South, EV sales in Invercargill during August were “pretty slow”, according to Electric Motor Vehicle Company owner Alex de Boer. “People were looking but no-one is making any decisions,” he says. They’re all waiting for the election to see if any incentives are going to come up.

De Boer has written to the government urging up. He believes many Southlanders have a range issue with EVs. “They don’t have the range to get to Queenstown unless they pay for the expensive EVs with big batteries.”

De Boer says he’d rather get the latest EVs with the all the tech than buy in older stock. Duredin EV specialist Alistair Gilmour of Gilmour Automotive says “things have been pretty quiet” since most of New Zealand moved to level 2. It’s not only COVID with many people losing work but the October 17 general election and lower fuel prices as well, he believes.

Gilmour says EV sales since New Zealand came out of level 4 lockdown “haven’t been that flash” and although Gilmour Automotive has plenty of stock, EVs are providing difficult to get in Japan with higher prices and fewer suitable stock there. Asked if New Zealand can reach 64,000 EVs by the end of 2021, Gilmour says: “No show!”

“The standard joke down here was that any time [Green Party leader and climate change minister] James Shaw made an [EV] announcement, things slowed down.”

Auckland City Electric Vehicles general manager Hadley Hargadon says August was “a bit tough” with Auckland in COVID-19 alert level 3 for most of the month but that sales have since picked up. “We have plenty of stock but it’s harder to find quality second-hand stock in Japan where prices are also going up.”

North Shore-based Volt Vehicles dealer principal David Lees agrees with the EV situation is Japan and says he’s waiting on more stock to arrive. Lees says EV enquiries “went gangbusters” after the lockdown was lifted but have since tapered off.

He believes that could be a result of the COVID-19 wage subsidy coming off, many people no longer having a job, the influence of the October 17 election, and other factors.

Lees notes the Nissan Leaf remains popular with people now trading in their older Leafs for newer models such as the 40kWh version.

The Nissan Leaf tops second-hand EV sales and is second in August new EV sales.
Ford New Zealand has begun the rollout of charging infrastructure to dealerships as it prepares to launch its first plug-in hybrid models.

Ford has partnered with electrical firm Singer Group Limited to prepare its network of dealerships around the country with dealership charging stations and customer home or business charging solutions.

Ford will soon be welcoming the addition of the all new Escape PHEV in two variants – the Escape FWD PHEV and the Escape FWD ST-Line X PHEV. In addition, Ford is offering both a Transit Custom SWB PHEV van and an 8-seater Transit Tourneo Titanium PHEV. Phase one of the Ford and Singer partnership includes dealerships installing on-site charging stations. Sales and service staff across all dealerships will be trained on the PHEV technologies.

Sales and service teams are also being trained up on how to use the chargers and in talking to customers about charging options at their home or business.

John Andrew Ford in Auckland was the first install with the rest of the Ford New Zealand dealer network underway and scheduled to be completed before the arrival of Ford’s new PHEVs.

“The new Ford Escape PHEV has already made a big impact in Europe, quickly becoming the best-selling PHEV on the continent* so we are especially excited to be prepping our dealerships for its arrival,” says Simon Rutherford, managing director, Ford New Zealand. “And equally, as New Zealand’s light commercial leader, and now with the Transit Custom PHEV as New Zealand’s only PHEV van solution on offer, we’ve got a great option for businesses looking to run a cleaner, greener and more efficient fleet.”

“Partnering with Singer for our dealer network charging station installs and customer referral program made great sense,” adds Rutherford. “They have a successful track record of installing chargers for both businesses and homes and providing fantastic aftersales support, and they can work with our customers to assess the best options for them.”

The Singer installed charging stations are compatible with both Type I and Type II connections. Most Ford dealerships will be installing the faster 22kW AC chargers on their forecourts, future proofing for full electric vehicles (BEVs) coming. The forecourt chargers are for customer use and most sites will also have a second charging station in the service areas.

Each dealership showroom will also have a non-live charging demo unit on display to show customers just how simple it is to plug in their new Ford PHEV. The Ford Head Office will also be installing a charging station.

The charging stations can be networked back to Singer, where they can monitor and report back on consumption as well as lock or unlock the station remotely.

“It’s a fairly simple procedure and straightforward charging unit, which is another reason we went with Singer,” says Rutherford. “Our focus is always on the customer experience and we want to ensure the charging process is simple and easy to use. And it is. If you can plug in a TV, you can plug in your Ford.”

Ford sales and service teams will be able to refer customers to Singer for their home or business installations. Singer will conduct site assessments with the customer and put together a plan for connecting the charging station at their site.

### POWER DEALS FOR EV USERS

<table>
<thead>
<tr>
<th>Company</th>
<th>Energy Deals</th>
<th>Where</th>
<th>Cost to charge LEAF*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meridian</td>
<td>Electric Car Plan: Super-low night rates from 9pm until 7am daily. Available for your home's electricity needs. Rates are fixed for 3 years. Plus get a year's worth of free EV charging on us! (bill credit of up to $300)</td>
<td>Auckland Wellington Christchurch</td>
<td>$4.91 $4.15 $2.82</td>
</tr>
<tr>
<td>Mercury</td>
<td>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.</td>
<td>Auckland Wellington Christchurch</td>
<td>$5.75 $5.82 $5.63</td>
</tr>
<tr>
<td>ecotricity</td>
<td>Low Solar: Low Usage plan for EVs &amp; can buy back solar energy, no fixed term</td>
<td>Auckland Wellington Christchurch</td>
<td>$716 $4.53 $3.20</td>
</tr>
<tr>
<td>Contact Energy</td>
<td>Everyday Bonus Fixed: Excellent night rates, no fixed term, check if the matching daytime kWh rate will affect your overall bill.</td>
<td>Auckland Wellington Christchurch</td>
<td>$5.57 $4.60 $3.28</td>
</tr>
<tr>
<td>Electric Kiwi</td>
<td>One Plan with Hour of Power: Free hour of off-peak power daily – included and calculated to be 2 kWh for charging at 8 amps. Note: this could be different depending on your designated Hour of Power.</td>
<td>Auckland Wellington Christchurch</td>
<td>$6.82 $6.86 $6.71</td>
</tr>
<tr>
<td>Flick Electric</td>
<td>Wholesale rates plus their Flick Fee: No fixed term, EV rate in Wellington. Calculated using an average spot price of 5.7c per kWh.</td>
<td>Auckland Wellington Christchurch</td>
<td>$5.80 # $5.75 # $3.46 #</td>
</tr>
<tr>
<td>Genesis Energy</td>
<td>Classic plan: Excellent night rates, no fixed term, 10% PPD has been included, check if the matching daytime kWh rate will affect your overall bill.</td>
<td>Auckland Wellington Christchurch</td>
<td>$6.81 $4.23 $3.73</td>
</tr>
<tr>
<td>Paua to the People</td>
<td>Cheap As Plan with EV night rates: No fixed term. Calculated using an average spot price of 5.7c per kWh</td>
<td>Wellington</td>
<td>$4.42 #</td>
</tr>
</tbody>
</table>

*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.
EV GLOBAL ADVANCES
We check out what’s happening around the world in the EV-related space.

VW ID.4 SUV STARTS PRODUCTION
Volkswagen has begun series production of its ID.4 electric SUV in Zwickau prior to its premiere at the end of September, the second ID. family model behind the ID.3. The ID.4 is expected in Australia and New Zealand around late 2022, Volkswagen New Zealand planning to use it to spearhead the new MEB EV platform, with discussions continuing around the ID.3 for New Zealand too.

SUPERCAPACITORS USURP BATTERIES
New supercapacitors are replacing batteries, according to IDTechEx’s latest report Supercapacitor Markets, Technology Roadmap, Opportunities 2021-2041.

Compared to batteries, supercapacitors last longer, are safer, tolerate overcharge, avoid complex battery management systems, waste less electricity, use more regenerative energy and most are now non-flammable, non-toxic, incur no costly controlled disposal, and provide lowest total cost of ownership, the report explains.

1000KM/H ELECTRIC ‘HYPERLOOP’ TRANSPORT
Start-up TransPod plans a hyperloop system in Alberta, Canada, expected to redefine commercial transportation by carrying passengers and cargo between cities faster than a jet and three times as fast as a high-speed train.
The hyperloop is likely to connect Edmonton and Calgary, construction of the inter-city line starting in 2025 and creating up to 38,000 jobs.

PORSCHE TAYCAN FULLY INTEGRATES APPLE MUSIC
Porsche and Apple Music are creating the first fully integrated music streaming experience inside the high voltage Porsche Taycan launching in September.

From the touchscreen display in the Porsche Advanced Cockpit, Apple Music subscribers can stream more than 60 million songs ad-free, thousands of curated playlists, and more, with three-year complimentary in-car music streaming.

ELECTRIC ROLLS-ROYCE PRODUCTION STARTS
About 30 electrified Rolls-Royce Phantoms and Silver Clouds will be produced by Lunaz, which restores and electrifies classic cars from its Silverstone base in England.
The world’s first electric Rolls-Royce cars include a 120kWh battery pack ensuring more than 480km range.

MARKET ROCKETS FOR ELECTRIC AND HYBRID VESSELS
Global emissions regulations are sending markets for electric and hybrid vessels soaring, the report Electric Leisure & Sea-going Boats and Ships 2021-2040 from IDTechEx says.

Electric ships have some of the largest individual batteries of any EV sector – many exceeding 4000kWh (including a 50,000kWh ferry) compared with the 37kWh global average for road EVs, it adds.

NIKOLA GETS BIG ELECTRIC TRUCK ORDER
US-based electric and hydrogen truck maker Nikola Corporation has received a “minimum order” of 2500 electrified (720Wh) refuse trucks from waste collection company Republic Services.
Nikola says full production of the order will now begin with deliveries expected in 2023 and on-road testing likely in early 2022.

LUCID AIR DEBUTS THIS MONTH
Lucid Motors launches its 830km range Lucid Air production sedan this month, possibly the longest range EV to date.

“I believe that our 900-volt architecture, our battery packs, miniaturised motors and power electronics, integrated transmission systems, aerodynamics, chassis and thermal systems, software, and overall system efficiency has now reached a stage where it collectively sets a new standard and delivers a host of world firsts,” Lucid Motors chief executive officer Peter Rawlinson says.
PADDON’S E-RALLY CAR READY THIS MONTH

Kiwi rally driver Hayden Paddon is set to drive his ground-breaking electric rally car in September.

It’s based on a Hyundai Kona EV with Paddon and his Cromwell-based team working on the project for two years, expecting to launch the car late October or early November following some private testing.

CAR-SHARE PARKING GETS HIGH PRIORITY IN WELLINGTON

Moves to provide more car-share parking across Wellington have been passed by the capital’s city council, despite opposition from councillor Diane Calvert because she “quite likes driving”.

The guidelines gave car-share parking a medium priority, increased to high after the motion was approved 12-3 by councillors, with bike and bus parking given a high priority too, and EV parking put down the list.

VW E-GOLF PRICE DROP

Volkswagen is running a special offer on its fully electric e-Golf, now available from VW dealerships for $61,990 (maximum selling price) until October 31 or while stocks last.

That’s about $7500 off the previous $69,490 price.

AUSSEIS WANT EVS BUT HANDBRAKE ON OVER CHARGE DISTANCE

About 56% of Australians are considering buying an EV for their next vehicle – up from 53% last year and 48% in 2018, according to the newly released annual State of Electric Vehicles 2020 report from the Electric Vehicle Council (EVC).

The popularity of EVs keeps climbing despite most Australians underestimating how far they can now go on a single charge, almost 80% of 2902 Australians consumers surveyed mistakenly believe the average EV is incapable of more than 400km range.

AUDI’S DEAN SHEED TALKS ABOUT THE BRAND’S ELECTRIFICATION

Audi New Zealand general manager Dean Sheed joins the EVs & Beyond podcast to discuss how the brand has done since COVID-19 and the electrification of its range.

He also drops some great news about the NZ Government VIP fleet.

MERCURY PERFORMS WELL IN TESTING TIMES

Mercury says its overall performance was strong in a testing 2020 financial year affected by drought and COVID-19.

The energy company recorded a net profit after tax of $207 million - down on the prior year’s record $357m, Mercury says in its report on the financial year ending June 30, 2020.

LIME’S BACK AS NEW AUCKLAND E-MOBILITY LICENCES ISSUED

Rental e-scooter, e-bike and bike operators have new licences to operate in Auckland from September 4, with 900 rental e-bikes and 50 bikes licenced alongside 2490 e-scooters for up to a year.

Lime is back, operating Jump’s e-bike (500) and e-scooter (830) fleets on a six-month licence, while Flamingo is unsuccessful this time, Beam (730 e-scooters) and Neuron (930) both getting a 12-month licence with Beam also able to run 400 e-bikes for a year too.

KIWI IS JAGUAR I-PACE ETROPHY CHAMPION

Archibald & Shorter Auckland Jaguar Land Rover sales consultant Simon Evans of Team Asia New Zealand is the Jaguar I-Pace eTrophy season two champion in its final event.

Evans describes the win as an “unreal experience”, adding it was a tough nine days with seven races.
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.electricheaven.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/

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/365895557107717/

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/

EV OWNERS FACEBOOK GROUPS – ONLINE CHAT GROUP FOR THE NZ EV COMMUNITY
<table>
<thead>
<tr>
<th>EVS AND BEYOND SEPTEMBER 2020</th>
<th></th>
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</thead>
</table>

### Fast / Super Charger Locations – North Island

<table>
<thead>
<tr>
<th>Location</th>
<th>Address</th>
</tr>
</thead>
<tbody>
<tr>
<td>Te Kaha</td>
<td>Te Kaha Bch Res, 3 Hotel Rd</td>
</tr>
<tr>
<td>Te Araonu</td>
<td>22 Rata St (25kWh)</td>
</tr>
<tr>
<td>Rotoru</td>
<td>11384 Hauns Rd</td>
</tr>
<tr>
<td>Tokoroa</td>
<td>New World, 72 Bridge St</td>
</tr>
<tr>
<td>Togala Bay</td>
<td>43 Cook St (25kWh charger)</td>
</tr>
<tr>
<td>Te Kuki</td>
<td>New World, 39 Rota</td>
</tr>
<tr>
<td>Munupara</td>
<td>Pine Drive Car Park, Pine Dr</td>
</tr>
<tr>
<td>Taupo</td>
<td>Firestation, 1 Kaimanawa St</td>
</tr>
<tr>
<td>Taia</td>
<td>Te Kaha, 1 Kaimanawa St</td>
</tr>
<tr>
<td>Gisborne</td>
<td>21 Gladstone Rd</td>
</tr>
<tr>
<td>Whakatane</td>
<td>3281 SH1</td>
</tr>
<tr>
<td>Ruakura</td>
<td>Lodge Cafe, 3281 SH1</td>
</tr>
<tr>
<td>Hamilton</td>
<td>66 Courtney St</td>
</tr>
<tr>
<td>Newmarket</td>
<td>Business Centre, 23 Napier St</td>
</tr>
<tr>
<td>Whangamata</td>
<td>75 Queen St</td>
</tr>
<tr>
<td>Whakatane</td>
<td>5466 State Highway 2</td>
</tr>
<tr>
<td>National Park</td>
<td>Four Square, 4354 SH4</td>
</tr>
<tr>
<td>Ohaune</td>
<td>New World, 30 Ayr St</td>
</tr>
<tr>
<td>Taipa</td>
<td>New World, 12 Hua St</td>
</tr>
<tr>
<td>Te Haro</td>
<td>Mc Vicar Rd, 4237 SH5</td>
</tr>
<tr>
<td>Waiau</td>
<td>CR SH 6 &amp; Hassett Dr</td>
</tr>
<tr>
<td>Havelock North</td>
<td>Pak'N'Save, 54 Princes St</td>
</tr>
<tr>
<td>Napier</td>
<td>206 Dickens St</td>
</tr>
<tr>
<td>Hastings</td>
<td>100 Queen St W</td>
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<tr>
<td>Mangaweka</td>
<td>Papi Cliff Cafe, 2 Koruenui St</td>
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<tr>
<td>Whangamata</td>
<td>Pak'N'Save, 167 Glasgow St</td>
</tr>
<tr>
<td>Waipu</td>
<td>34 Russell St</td>
</tr>
<tr>
<td>Dopopika</td>
<td>2670 SH1 (25kWh)</td>
</tr>
<tr>
<td>Woodville</td>
<td>Site, 43 Vogel St</td>
</tr>
<tr>
<td>Palmerston Nth</td>
<td>Site, 126 The Square</td>
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<tr>
<td>Palmerston Nth</td>
<td>Te Kaha, 210 Nth Rd</td>
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<tr>
<td>Taipa</td>
<td>Kapiti Pak'N'Save, 132 Rimu Rd</td>
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<tr>
<td>Pohara</td>
<td>7D Wellington Rd Paekakariki</td>
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<tr>
<td>Pak'N'Save</td>
<td>Z Station, 60 Hutt Rd</td>
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<tr>
<td>Carterton</td>
<td>3 Dixon St</td>
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<tr>
<td>Turangi</td>
<td>Kapi Pak'N'Save, 132 Rimu Rd</td>
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<tr>
<td>Taupo</td>
<td>New World, 320 Taupo</td>
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<tr>
<td>Paraparaumu</td>
<td>15 Raumati Rd, Paraparaumu</td>
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<tr>
<td>Te Kaha</td>
<td>70 Wellington Rd Parakaraki</td>
</tr>
<tr>
<td>Manawatu Queen Elizabeth Park</td>
<td>3 Dixon St</td>
</tr>
<tr>
<td>Portico</td>
<td>2 Serenity Pl</td>
</tr>
<tr>
<td>Featherston</td>
<td>SuperValue, 42 Fitzhertson</td>
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<tr>
<td>Upper Hutt</td>
<td>24 Queen St</td>
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<tr>
<td>Lower Hutt</td>
<td>Dowse Art Museum, 1 Stevens Gr</td>
</tr>
<tr>
<td>Wellington</td>
<td>Grey St Parking</td>
</tr>
<tr>
<td>Paraparaumu</td>
<td>Costco 500 Taunton Rd</td>
</tr>
<tr>
<td>Te Araroa</td>
<td>1 Pihanga Rd</td>
</tr>
<tr>
<td>Te Araroa</td>
<td>1 Pihanga Rd</td>
</tr>
<tr>
<td>Te Araroa</td>
<td>Inglewood Parking, 68 Inglewood Pl</td>
</tr>
</tbody>
</table>

### Fast / Super Charger Locations – South Island

<table>
<thead>
<tr>
<th>Location</th>
<th>Address</th>
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</thead>
<tbody>
<tr>
<td>Takaka</td>
<td>16 Willow St</td>
</tr>
<tr>
<td>Havelock</td>
<td>Four Square, 68 Main Rd</td>
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<tr>
<td>Matuaika</td>
<td>New World, 271 High St</td>
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<tr>
<td>Karamea</td>
<td>Four Square, 103 Bridge St</td>
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<tr>
<td>Nelson</td>
<td>24 Four Square, 113 Quadrant St</td>
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<tr>
<td>Richmond</td>
<td>Library, 11 Mcglashen Ave</td>
</tr>
<tr>
<td>Spring Creek</td>
<td>2225-2 SH1, Blenheim 7202</td>
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<tr>
<td>Blenheim</td>
<td>Pak'N'Save, Springlands</td>
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<tr>
<td>Ward</td>
<td>Flaxbourne Cafe, 7326 SH1</td>
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<tr>
<td>Nelson</td>
<td>New World, 244 Palmerston St</td>
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<tr>
<td>Reefton</td>
<td>Four Square (25kWh) 47</td>
</tr>
<tr>
<td>Broadway</td>
<td>13 Tarapuhi St</td>
</tr>
<tr>
<td>Greytown</td>
<td>51 West End</td>
</tr>
<tr>
<td>Kaihuna</td>
<td>New World, 124 Beach Road</td>
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<tr>
<td>Hokitika</td>
<td>New World, 116 Revel St</td>
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<tr>
<td>Culverden</td>
<td>27A Mountain View Rd</td>
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<tr>
<td>Amberley</td>
<td>Countdown, 123 Carters Rd</td>
</tr>
</tbody>
</table>

### EV Charging Locations

- **TECHNOLOGY**:
  - Fast Charger
  - Destination Charger
  - Tesla Charger

### Global Vehicle Logistics

- **NZ**
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- **AUSTRALIA**
- **UK**
- **EUROPE**
- **www.autohub.co.nz**