EV talk

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Australia should plug in to the EV market

A new report points the finger at government for a lack of national co-ordination and support which has seen EV uptake struggle in Australia.

That's according to an Electric Vehicle Council (EVC) Australia report on the state of EVs nationally, which suggests Australia has a once-in-a-lifetime opportunity to develop a robust domestic industry around EVs.

The report shows how consumers and the industry are taking the steps to make Australia's EV revolution a reality, EVC chief executive officer **Behyad Jafari** says.


Behyad Jafari

"States are filling the policy gap, with the Federal government due to act in less than 12 months."

While 2.1 million EVs sold globally in 2018, Australia lagged behind with 2216 sales in the same year.

But the outlook is encouraging, with 2019 seeing a rebound in EV sales for the first half of the year, 90% higher than for the same period in 2018.

Consumer choice is also increasing with the number of EV models available in Australia expected to jump from 22 as of August 2019 to 31 by the end of 2020, the EVC says.

Meanwhile, the availability of public charging infrastructure has increased by over 140% in the last year and by 400% since 2017.

The national EV charging network now comprises 1930 stations.

Consumer awareness and attitudes to EVs continue to improve, according to a survey of 1939 Australians for this report.

In the 2017 State of Electric Vehicles report, 19% of those surveyed said they had done some research into EVs, while this year that more than doubled to 45%. Indeed, 51% of those surveyed say they would consider purchasing an EV or are researching EVs with an intention to buy.

When asked about price, 69% of respondents indicate they are willing to buy an EV if they had the same upfront price as fossil fuel equivalents.

The proportion of people willing to pay more upfront for an EV increased from 4% last year to 7% this year, suggesting a greater appreciation for EVs' advantages, the council says.

Consumers' primary concerns continue to be range and price, while the most popular government policies are public charging infrastructure, price subsidies, and home charging discounts.

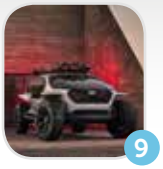
Most respondents say if they owned an EV they would power it using renewable energy.

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Electric tipper truck on show

SEA Electric will have its newly launched SEA NPR EV tipper truck at the National Roads & Traffic Expo in Melbourne, September 17 and 18.

Then it's heading for the City of Yarra for use in rubbish collections.

At the expo in the Melbourne Convention & Exhibition Centre at 4.30pm on the first day, SEA Electric Oceania regional director Glen Walker will talk about "the case for electric trucks and why they differ from electric cars".

Visitors to stand 901 will see the Isuzu NPR 65-190 tipper, powered by a SEA-Drive 100 power-system which produces 59kW continuous power and 108kW maximum power.

More importantly for a commercial vehicle, the SEA-Drive 100 produces continuous torque of 1000Nm, has a 275km unladen range and an onboard three-phase charger that can be charged to 80% within five hours.

The zero-emission tipper truck has mid-mounted batteries for vehicle balance and safety, and added driver protection.

"This vehicle, produced in partnership with the City of Yarra, reduces operating costs, enhances driving environment and lowers total cost of ownership when compared with existing diesel technology," Walker says.

The expo features hundreds of

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Australia should plug in to the EV market

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This report also highlights the important role of corporate and government fleet procurement in facilitating a rapid transition to electrification.

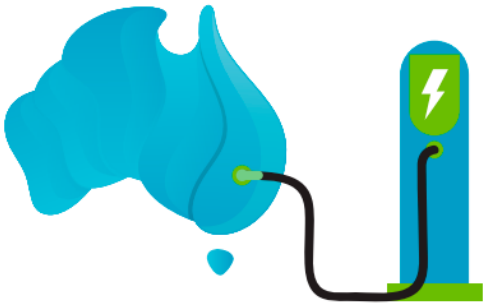
Fleets make up 52% of new vehicle sales and serve as an important source to the second-hand market.

Through their co-ordinated purchasing power, fleet transition plans also serve to demonstrate demand to vehicle suppliers and the public charging infrastructure industry.

With significant mineral resources and a highly skilled workforce, Australia could benefit economically at every stage of the EV supply chain, the EVC says.

Increasing the domestic EV market has the potential to reinvigorate automotive manufacturing in Australia and create tens of thousands of jobs in new adjacent industries, the report adds.

"Australia continues to have no national electric vehicle policy, despite such policy being instrumental to the success of markets with strong electric vehicle adoption rates," the report says.



Australia has a 'once in a lifetime' chance to get into the EV industry

"While the Federal Government is currently developing a strategy due for completion in mid-2020, it is more important than ever that this strategy is supplemented by strong policies by state and territory governments."



The EVC's report

During data collection on the state of EV policies, the EVC found there are only minor commitments to the electrification of road transport from governments at this level, despite a strong desire to capture the benefits of electrification.

"State and territory governments suggested they are waiting for national policy direction from the Federal Government. How this relationship continues to play out and shape the market will be a key determinant for Australia's immediate success in developing a strong and vibrant e-mobility sector."

Electric tipper truck on show

Continued from page 1

free information sessions and demonstrations on topics relating to changes in Australia's road infrastructure and traffic industries, and developments in the fields of infrastructure, traffic management, smart mobility, parking and safety.

The Yarra City Council says the tipper will be used five days a week for hard rubbish collections, joining the city's growing EV fleet.

"A handful of councils have electric waste trucks but our new electric tipper is an Australian first," Yarra mayor Danae Bosler says.

"Yarra Council's assets and facilities are powered by 100% renewable energy, meaning this will be a genuinely zero-emissions vehicle," she says.



The Isuzu electric tipper

"We're also exploring how we can transition to electric rubbish and recycling trucks over the next five years."

Bosler says it's among ways the city is responding to the climate emergency.

"For now, at least, our electric tipper means one less noisy, polluting truck on our roads.

"As a council we are in a unique position to use our purchasing power to make sustainable choices, and we're proud to be supporting the local electric vehicle industry."



The Kia you want - but can't have

Let's start this story with the bad news. The Kia e Niro has been successful enough overseas that, sorry, but you can't have one.

"Global forces have dictated that it is unlikely we will be able to bring it to Australia until at least 2021," Kia Australia told *EVtalk* in response to questions about the car, which has been on sale in some markets for nearly a year.

Even our cousins across the Tasman have the e Niro, and while there to drive the Tesla Model 3, we took the opportunity to give it a go.

Kia is offering two versions of the Niro EV, both largely the same save for the battery size and motor power. The EX 289 costs A$65,000 and features a 39.2kWh battery, the motor puts out 100kW and 395Nm of torque, and a range of 289km (WLTP). The EX 455 - you guessed it, the range is 455km, gets 150kW from its motor and features a 64kWh battery for just $6000 more.

Both batteries are actively cooled.

We think the 289km is short on

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The Kia you want - but can't have

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range and value, the 455km though is more on the money. It sits between the two Kona models on price and spec, and the battery size gain makes it a worthwhile price step over the likes of the Leaf and Ioniq.

The trickier question is why you would shell out $2000-$3000 more than the price of a Model 3 Standard Range Plus. Some will prefer the backing of a nationwide dealer network, the SUV shape and others may just not be willing to jump on the Tesla hype machine yet.

For fleets, who want a vehicle that has zero learning curve over their other vehicles, the Niro is likely to appeal as well. Over the hybrid versions of the model, the key differences are the now closed grille, which houses the CCS2 charging port, a revised centre console with a rotary-dial style shifter, paddles to vary regeneration attached to the wheel and a slightly revised LED dash screen.



The Niro is not going to win any beauty contests, although it is attractive enough. The shape is SUV-ish, though it could be argued it is a large hatchback or a small wagon. The front has a hint of Soul (the other Kia EV) to it, while the rear just feels a little dated. There are some cool details, like the plug motif on the charging lid, and arrow-like driving lights.

The centre console may seem a little detailed, but it is one of the areas that

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splits the Kona and Niro apart. I very much prefer Kia's dial for changing gear to Hyundai's buttons, but the centre console does feel a bit "tacked on", rather than the full, raised centre console in the Kona that adds a real premium feel to that vehicle.

The interior is otherwise a very nice place to be, with excellent build quality and finishes, and it is roomy both front and rear. The touchscreen infotainment system is easy to use and features Apple CarPlay and Android Auto. The seats are part synthetic leather and very comfortable - though not heated. A chat to a Kia spokesperson suggested that with the amount of range on offer the argument over heated seats being more efficient was not really necessary. The cabin warmer/cooler is an efficient heatpump.

What you get in spades over the competition is interior space. The Kia is 200mm longer overall, 100mm of that in the wheelbase. That makes it roomier in pretty much any measure, and gives it nearly 120 litres of extra boot space. The rear seats fold down and families and commercial users will find this the more practical option.

It drives pretty well too. The Eco and Sport modes vary the amount of power available, and regeneration levels, or you can do that manually via the steering wheel paddles. In Sport mode the full 150kW and 395Nm are on offer, and it can scurry away from the line in haste. The ride is comfortable, the steering is light and responsive, and the Niro feels very stable through corners. We did find in the wet, however, the eco-biased tyres felt a little underwhelming - not unsafe, but just lacking in a little bite.

Eco mode drops the maximum speed of the vehicle down to 90km/h and reduces torque and response.

You get a full range of driver assistance features as well, including radar cruise control, a lane keeping system, blind spot detection, autonomous emergency braking and a rear vision camera with guidelines. Electronic stability control and seven airbags add to the safety equipment schedule.

How is the range? We didn't have the ability to do a full range test on the Niro, though found it easily passed 300km before we felt the need to plug in - with range to spare. We like nose-mounted charging ports, as in the Niro, as they work with almost every charger we have come across without the need to park across lines.



We did one large charge during our drive, an hour on an ABB 50kW unit to get to 80%, taking on 43.363kWh.

The onboard AC charger is a 7.2kW unit, and we must commend Kia for providing not only a portable charging unit, but also a type-2 to type-2 cable, adding around $500 extra value to the package on that one cable alone. Charging times will depend on your personal setup, although with this level of range it is safe to say that in normal use you do not need to plug in often.

In New Zealand, Kia has backed the Niro EV with a solid warranty programme. The battery is covered by a seven year, 160,000km policy, while the whole vehicle is covered for five years or 100,000km.

For its first official BEV effort in the New Zealand market, the Kia Niro is very well packaged and very easy to live with. Model 3 aside, it is competitively priced in 455 form, and its added practicality may just give it a slight edge over its Korean EV SUV cousin. ■

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Aussie firm educating Kiwis on electricity roadmap

GreenSync is a Melbourne-based global energy-teach company that is connecting millions of distributed energy resources (DERs) and turning electricity grids into market places.

"Every smart device connecting to grids today - especially EVs - needs to be controlled when they download/upload from the network," GreenSync founder **Phil Blythe** explains.

"Twenty-five per cent of our infrastructure is used less than 40 hours a year and if we do not harness this down-time we will be adding billions of dollars to consumer costs.

"For instance, expansion of the 1.9 million electric car fleet in Norway is going to drive up the need to upgrade the power grid.



GreenSync is partnering with Wellington Electricity through the EV Connect project

25% of our network infrastructure is used less than 40 hours per year

"Without smarter charging, costs are estimated at 11 billion krona (A$1.8b, NZ$1.9b) by 2040 - or A$1000 per vehicle," Blythe told the EV Transition Conference in Sydney last month.

He says that these costs are being avoided in New Zealand ("you know the people that beat us in rugby, netball and cricket - and developed the pavlova") via EV Connect, a project in partnership with Wellington Electricity.

"We can't let them beat us in EV acceptance and smart charging too," Blythe quips.

He says that the Wellington project is in three stages:

- Introduce a technology showcase to demonstrate multiple charging methods and introduce EVs to the marketplace.
- Provide a pilot with retailers and fleet managers to provide services to Wellington Electric and begin unlocking value for customers.
- Deliver on an industry road map to scale the project nationally, in collaboration with the industry and regulators.



Phil Blythe

Blythe says the technology showcase should be delivered by a digital platform - a scalable technology-neutral exchange.

"There should be open access integration, with multiple vehicle charging technologies and operators.

"Wellington Electricity should have visibility over all EV chargers connected to the network, with dynamic limits over vehicle charge rates."

Blythe says that the pilot should be kept simple with multiple suppliers of charging facilities - definitely no customer lock-ins.

"Customers should be given new value through retail offers in return for charge flexibility.

"They should have choice, with multiple tech charger integrations, both residential and commercial.

"The aim should be to provide network services to Wellington Electric via dynamic connection agreements (DCAs).

Blythe says the smart charging business model should have four parts:

- Strong collaboration with industry - early conceptual buy-in from government, regulators, technology vendors and grid operators.
- The business case should be network-wide and long term - incremental roll-out will be significantly more expensive and lead to high inequities.
- Plan for scale at a state or national level - systems, standards and processes are hard to cost justify at a local level only.
- Just get started.

Visit **info@greensync.com** or phone **+61 3 9008 5986** for more information.

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A modular citizen

Technology in general doesn't do much for me, so it was always going to be an uphill battle for the Tesla Model 3 to win anything more than an idle acknowledgement; and I'm OK with that.

At risk of getting philosophical, technology should enrich our lives and be used as a tool, not the bedrock on which a social institution is bolted to. For this reason I haven't chosen which backyard of the Tesla fence to jump into.

But when a piece of technology gets it "oh-so-right", and takes mankind forward in a meaningful and profound way, that's when it wins my respect. Like the Model S, for example, which I adulate in traffic.

The Model 3, seen here in rear-wheel drive, is overall an impressive device. It's measurably more comfortable than any internal combustion competitor in the price bracket, which includes $66,000 in base form, plus an extra $1050 for the slick black Cadillac-style paint Quiet Riot once headbanged into.

Speaking of which, not only is it so peaceful not having to hear the ruckus of pistons and camshafts, it's so well damped over Australia's offensively poor roads, riddled with jarring tram-track lumps and bumps, you'd think it was a Mercedes.

By the time you add the "full self-driving capability" at $8500 and the government's $4440 in taxes and on-road costs, including over $3000 in Luxury Car Tax, you're looking at a pineapple over $85,000.

To drive the Model 3 yourself, with one's own eyes, hands, feet and brain engaged in such a task, I'm not surprised people joined an unorderly queue outside Tesla's Chadstone store in August last year just to see what they'd put a deposit on.



Ready to rumble: Tesla Model 3 vs child seat

It turns in, holds on and blasts out of any corner presented to it, with handling not stereotypically befitting an American sports car, in historical terms. Even doing the 0-100 sprint in five something seconds, it's brisk; dusting most generic hot cars with a single helical gear and a dab of Scalextric zip.

It's genius to design a "dog mode" which allows owners to safely keep their beloved furry family member in their Model 3 with the climate control set to keep your pet comfortable while you grab a frappe on a warm spring day. I'm told a message on the main screen tells bystanders not to panic and call the police or Animal Cruelty Hotline, nor grab the nearest loose brick or some tradie's cordless angle grinder to break in.

Also clever is the satnav which knows things about the city you live in, while also being able to accurately predict how far off you are.

But isn't it ironic that less than 24 hours after returning the Model 3 to Tesla Australia, some fully qualified morons were splashed across the global headlines for taking a kip while operating the ill-named Autopilot.

Despite what millennials and Gen-Ys are trying to do to the English language, words have meanings. The term Autopilot works in aviation because Boeings and Airbuses don't bump into things at 38,000 feet doing 800km/h.

OEMs have an obligation to alter designs when they pose a risk to consumers, regardless of their deliberate misuse or ignorance for their functionality. I say this because, in my attempts to sample the limits of Autopilot in traffic, it failed to stop at three sets of traffic lights – which is completely understood and thoroughly explained by Tesla, much to the disregard of some customers.

The car's auto-steering function cancels crossing intersections where line markings cease in place of concrete and tram tracks, or where white

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A modular citizen

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lines fade or are blocked by roadworks equipment, or at a "keep clear" area. I fully acknowledge Autopilot is not supposed to be used in built-up areas, but it handled the congestion faced by thousands exiting the Eastern Freeway at Hoddle Street with such silky smooth, undramatic calm that I'm sure the day will come when it's as common as cruise control.

Under the proviso of tech enhancing our lives, the move to a smaller central touchscreen to operate literally every single function on the car - bar indicator stalks, one-touch wipers and drive selection - has both pros and cons.

It's nice to have a clutter-free cabin, with the only buttons being for opening the doors and operating the hazard lights, but it remains a distraction trying to locate functions like air-con. Adjusting temperature and fan speed by trying to touch the tiny symbols mid-traffic requires taking the eyes off the road too long. Bigger icons are needed, with the five most common features accessible with one push (not hidden in a sub-menu), in the bottom right corner closest to the driver.

Installation of a baby seat is gleefully easy, however, because the ISOFIX points are wide and not disguised by fabric covers or tucked deep beneath the seat fold. The top tether effortlessly clicks into the anchor point in the parcel shelf – no crawling into the boot and cursing at having to adjust the belt length several times to reach.

Sadly, the lack of grab handles due to Tesla's minimalist design not only means lateral G-forces will wreak havoc on unbraced occupants, but it means there's no designated spot from which to hang the boy's singing caterpillar. That said, I made-do by clipping them on to the sculpted rear moulding of the front passenger's seat. Presumably, this is not its intended use.



Model 3 swallows cargo whole



The seats are remarkably good to sit in, a reminder of the way big Commodore and Falcon seats used to feel. Just watch out using maximum setting on the seat-heaters because crikey, they will toast your soft delicate flesh.

Lastly, the Model 3's best feature is the boot's ability to swallow whole an entire stroller, and whatever else you could think to take. It beats every other electric car on sale today on stowage ability, which has long been the worst drawback of going for an EV.

The Model 3 promised to be the people's electric car, the one for the masses, and comes so very close to being perfect. ■



The AI:Trail off-roader is Audi's 2019 concept car

Audi is getting ready to showcase its electric off-roader, the Audi AI:Trail quattro.

The concept, involving four visionary vehicles – the Audi Aicon, AI:Me, AI:Race and AI:Trail - are on display at Audi's stand throughout the IAA 2019 Frankfurt motor show, September 12-22.

"With the AI:Trail, we are showing off an off-road concept with an emissions-free electric drive for an innovative driving experience away from paved roads," Audi design head **Marc Lichte** says.

"Consistent to this, we designed a monolithic basic vehicle body with maximum glazing to create an intense connection to the surroundings. A concept for sustainable mobility on demand."

The four-seater Audi AI:Trail quattro combines the capacity for automated driving. The "Trail" part of the name suggests exploring nature.

The quattro is the fourth entrant in the electric drive systems concept cars, which began with the Audi Aicon at the 2017 IAA. The following year, the Audi PB18 e-tron made its debut in Pebble Beach.

The Audi AI:ME was the third in the series and was introduced this year at the Auto Shanghai show. It is an autonomous city car aimed at megacities all over the world.

The AI:Trail is the fourth and opens up potential to include off-road terrain. The vehicle has four electric motors, systems for assisted and automated driving, and quattro permanent all-wheel drive.

The driver can choose autonomous driving level three on forest roads, or four on paved streets, Audi says. A driver is needed for rough terrain.

"This lets drivers either concentrate on nature with all of their senses or enjoy a special blend of the feeling behind the wheel and the outdoor experience – in the truest sense of the word," Audi design project manager **Oliver Keyerleber** says.



The four models embody a new mobility concept for the brand.

"We make mobility possible and use experiences to create an emotional connection to our brand," Keyerleber says.

"The driver can concentrate on whatever is going on around at precisely that moment. And that makes every trip in the AI:Trail a unique experience."

The Audi AI:Trail is 4.15 metres long, 2.15m wide, 1.67m high and has 22-inch wheels. Its ground clearance is 34cm and it can ford water more than half a metre deep.

The electric drive system is arranged around the axles and battery in the floor. The four Audi vehicles at IAA 2019 will demonstrate this one-box design becoming the standard for the electric vehicle.

Despite its high-capacity battery, the AI:Trail weighs 1750kg.

Passengers have an unobstructed view of the road or trail, both in front and to the sides. The roof is transparent and covered in glass, so offers a clear view of the sky as well.

The Audi AI:Trail's interior is tidy, with only a few visible control elements. Light colours dominate the upper interior down to the level of the seat cushion and the low dashboard.

The stated range target for its lithium-ion battery is 400km-500km on roads and 250km on rough ground where the elevated wheel slip means energy consumption is higher.

It's designed to reach a 130km/h top speed on the road.

"The low centre of gravity – created by placing the battery in the underbody and using four electric motors – shows off the quattro of the future," Keyerleber says.

"We want to get around quietly and without emissions, to protect the environment."

The maximum system output is 320kW of power and maximum torque is 1000Nm.

Pricing and other details are expected to be available closer to the AI:Trail's production launch. ■



Electrics and hybrids rise, petrol/diesel drop



Electric vehicles and hybrids continue to increase in uptake at the expense of petrol and diesel vehicles.

The trend shows in the latest VFACTS national new vehicle sales for August.

While electric, plug-in hybrid (PHEV) and standard hybrid sales reach new heights, conventionally fuelled internal combustion engine (ICE) vehicles see sales decline right across the various segments.

Electric/PHEV vehicles in the private passenger category record 84 sales during August 2019 compared with 17 in August 2018. That's up 67 or 394.1%, with year-to-date (YTD) figures showing 270 – up 97 on 173 YTD last year (56.1%).

Doing even better, hybrids in the same category soar to 511 – ahead 186 on August 2018 (57.2%) with YTD 2019 totals showing 4529 – a 2014 increase (80.1%) on 2018.

In contrast, petrol private passenger vehicle sales slump 3512 from 14,909 in August 2018 to 11,397 sales in August 2019, down 23.6%, while YTD figures show a 23,790 decline (minus 17.7%) to 110,297 (134,087 YTD 2018).

The drop-in diesel vehicle sales is just as marked with 160 for the month, down 62 (minus 27.9%) from 222 in August 2018. YTD diesel sales were down 1110 from 2572 in 2018 to 1462 so far this year (minus 43.2%).

It's a similar story in the other categories, with the electric/PHEV segment in non-private passenger vehicle sales reaching 62 in August 2019, up 129.6% on the 27 recorded for August 2018.

YTD totals for electric/PHEV sales in the same category are up 4.3% from 327 (2018) to 341 (2019).

Hybrids in the non-private passenger sector jump 51.9% (847 to 1287) in the monthly comparison, and are up 63.7% on YTD, or 3350 more than for 2018 – from 5256 to 8606.

Petrol and diesel vehicle sales again take a tumble in this sector.

SUVs continue their popularity, especially in hybrids.

Private hybrid SUVs jump from 44 in August 2018 to 660 in August 2019, up 616. And in YTD figures hybrid SUVs leap from 452 in 2018 to 3091 so far this year – up 583.8%.

Electric/PHEV private SUVs surge from 15 in August last year to 86 for August just gone (up 473.3%) and in YTD totals go from 90 in 2018 to 518 this year – up 475.6%.

In the non-private SUV category, electric/PHEV sales are down slightly for the month (72 in August 2018 to 47 in August 2019 – a drop of 25 (minus 34.7%) but still well up in YTD sales statistics from 297 to 710 - up 139.1%.

The only other category to record electric/PHEV figures is in the non-private light commercial sector, barely moving from two in August 2018 to three in August 2019, and YTD from eight in 2018 to 13 so far in 2019.

General vehicle sales results for August mark the 17th consecutive month of declining sales, Federal Chamber of Automotive Industries (FCAI) chief executive **Tony Weber** says, noting it's a very tough market.

He puts this down to a slow start of the year, tight financial lending, state and federal elections, and a general lack of consumer confidence both in Australia and internationally.

Best two selling brands, Toyota and Hyundai, also sell hybrids with the latter including battery electric vehicles (BEVs).

The top selling PHEV in Australia is still the **Mitsubishi Outlander,** while **Tesla** models are among the most sold all-electrics. Others include the **Renault Zoe, BMW i3** and the soon to arrive **Kia Niro EV.**

NEW VEHICLE SALES BY BUYER TYPE AND FUEL TYPE — AUGUST 2019

	Month		YTD		Variance +/- Vol. & %			
Total Market	2019	2018	2019	2018	MTH	YTD	MTH	YTD
ELECTRIC								
Passenger Private	84	17	270	173	67	97	394.1%	56.1%
Passenger Non-Private	62	27	341	327	35	14	129.6%	4.3%
SUV Private	86	15	518	90	71	428	473.3%	475.6%
SUV Non-Private	47	72	710	297	-25	413	-34.7%	139.1%
Light Commercial Non-Private	3	2	13	8	1	5	50.0%	62.5%
Sub Total	282	133	1,852	895	149	957	112.0%	106.9%
HYBRID								
Passenger Private	511	325	4,529	2,515	186	2,014	57.2%	80.1%
Passenger Non-Private	1,287	847	8,606	5,256	440	3,350	51.9%	63.7%
SUV Private	660	44	3,091	452	616	2,639	>999%	583.8%
SUV Non-Private	389	67	2,114	670	322	1,444	480.6%	215.5%
Sub Total	2,847	1,283	18,340	8,893	1,564	9,447	121.9%	106.2%
TOTAL	**3,129**	**1,416**	**20,192**	**9,788**	**1,713**	**10,404**	**54.7%**	**106.3%**

NZ EV registrations exceed year's 16k target

Electric vehicle registrations in New Zealand have jumped to 16,031 for August – 610 up on July's 15,421.

That's a healthy increase, coming in above July's 550 rise and May's 567 increase on the previous month, although below June's 638 rise, Ministry of Transport registration figures show.

The newly released figure already exceeds the 16,000 EV end-of-year target, with the goal a doubling of EVs every year to get 64,000 on New Zealand roads by 2021.

Used light pure EVs still lead the charge, the category rising 276 from July's 8858 to 9135, compared with a 335 rise in July from June's 8523.

The **Nissan Leaf** tops the used light pure EV segment with 257 August sales and a massive 2249 YTD total, with nothing else in double figures.

New light pure electrics followed on 2902, up 192 on July's 2710. That's a much better increase than the 75 rise in July on June's 2625.

This category is likely to have been boosted with the arrival of the **Tesla Model 3** RHD and the new **Nissan Leaf.**

The Model 3 sold 57 in its first month in New Zealand, August sales figures reveal - ahead of every other new EV brand.

The new Nissan Leaf was also up there in August sales, recording 39 in second place behind the Model 3 and 41 YTD.

Back to the Ministry of Transport registration statistics, new light plug-in hybrids (PHEVs) reached 2552. This sector is 86 more than July's 2466 registrations which was itself an increase of 60 on June's 2406.

Used light PHEVs now total 1294, up 49 on July's 1245 which that month rose 68 on June's 1177.

Six more heavy EVs were added to the NZ fleet for the month, bringing that category to 148.

Auckland continues to lead the country in EV uptake with 7291 registrations, followed by Canterbury on 2337 and Wellington on 2063.

Some prospective EV customers may be waiting for the introduction of potential rebates under the Government's proposed Clean Car Discount or feebate scheme, but that's certainly not indicated in the latest figures.


Tesla Model 3

Submissions on the Clean Car Discount and the Clean Car Standard, the latter relating to emissions, closed on August 20 for the public, and September 10 the deadline for some automotive representative groups.

Ministry officials are wading through more than 1000 public submissions with a summary expected to be released later in the month.

New Zealand V2H trial Usshered in

Tomas Ussher of Piha is the first to trial Vector's new vehicle-to-home (V2H) technology in New Zealand.

Auckland energy company Vector has begun the trial to explore how EVs and V2H systems can ease peak demand on electricity networks.

V2H can also be used as backup during short-term power cuts.

Ussher has been provided with a Nissan Leaf and Smart EV charger, which he will use for at least a month. By plugging the EV into his home appliances via the V2H unit he will be able to power them using energy stored in the EV battery.

"We're really pleased to announce that the trial is now under way," Vector product, technology and innovation general manager **Cristiano Marantes** says.

"This is exciting new technology and we hope that it will give us a better understanding of how we might be able to improve customer experience and improve reliability of supply. With Auckland's growing demand for electricity, it's important that we explore how we could leverage emerging technologies for the benefit of our customers.

"Options like V2H are about putting more control back in our customers' hands. In remote and sparsely populated areas such as Piha, residents are often reliant on a single 11 kilovolt feeder cable into the area.

"If we can enable the use of technology such as V2H, then residents will be able to rely on their own backup electricity supply until power is restored during short-term outages, as well as saving on power bills by reducing their network usage during peak times."

Ussher is the first of several Piha residents who will trial the technology during the next six months. The trial has been co-funded through the Government's low emission vehicles contestable fund administered by the Energy Efficiency and Conservation Authority (EECA), which aims to reduce carbon emissions from road transport by encouraging EV innovation, investment and uptake.



Tomas Ussher

NZ hydrogen plan launched

A national vision for hydrogen which includes its use in transport has been launched by New Zealand energy and resources minister **Megan Woods**.

Announcing a Green Paper - *A Vision for Hydrogen in New Zealand* , she says it fits with the Government's strategy to combat climate change, including greater support for low emissions vehicles.

The paper outlines the role hydrogen can play in New Zealand's economy, and what can be done to accelerate its use.

"I consider green hydrogen as one of the potential tools that will help assist us to reduce global emissions," Woods says.

"With hydrogen, we have opportunities to create new jobs, convert heavy transport away from fossil fuels, enhance our security of electricity supply and even generate significant export revenue.

"For a country blessed with abundant renewable energy, the ability to convert our clean electricity into green hydrogen which can fetch a premium on global markets is a major economic opportunity."

Woods says clear international interest in hydrogen sourced from New Zealand already exists.

"Last year, we signed a world-first memorandum of co-operation with Japan to encourage collaboration between us on hydrogen initiatives.

"We're already seeing significant investment in hydrogen locally, with projects like the joint venture between Ballance Agri-Nutrients and Hiringa Energy to produce commercial-scale green hydrogen in Taranaki and Tuaropaki Trust's partnership with Japanese multinational Obayashi Corporation to construct a pilot hydrogen production facility using geothermal electricity near Taupo."

Woods says the paper is part of a renewable energy strategy work programme also looking to address barriers to investment in new renewable energy.



Megan Woods

"This Green Paper discusses how hydrogen could fit into New Zealand's wider energy and transport system. The paper builds on existing work, identifying the possible applications, benefits and barriers to the uptake of hydrogen in our energy, transport and export sectors. It explores the role that hydrogen could play in different pathways to decarbonisation, and energy resilience," she says.

It sits alongside the Government's decision to end new offshore oil and gas exploration, investment in a National New Energy Development Centre in Taranaki, backing cutting edge renewable energy technology, greater support for low emissions vehicles and helping businesses to invest in low emissions industrial processing with the aim of reaching 100% renewable electricity by 2035, and to transition to a clean, green and carbon neutral economy by 2050.

Submissions on the Green Paper close October 25.

'EV Connect' for Wellington, NZ

A project called 'EV Connect' will be introduced to Wellington, New Zealand, to provide a business model for smart electric vehicle charging technology.

The three-stage project is co-ordinated through a partnership between Melbourne-based energy tech firm GreenSync and Wellington Electricity, with part funding of $275,000 provided by the NZ Government's low emission vehicles contestable fund.

It's designed to provide solutions to manage peak electricity demand on Wellington Electricity's network, the stages including grid connection technology, a corporate fleet pilot programme and a roadmap for industry consultation and wider adoption.

GreenSync uses an innovative decentralised energy exchange (deX) platform which it says helps "transform electricity grids into marketplaces" to provide a "cheaper, cleaner and more reliable energy system for everyone".

The Wellington project marks GreenSync's expansion into New Zealand and will show the deX platform's capability in addressing international issues around the management and integration of renewable and distributed energy resources, GreenSync chief executive officer **Phil Blythe** says.



A business model is being produced for smart EV charging

Wellington Electricity will investigate how it can use customers' energy assets, such as using EVs and their batteries in providing power back into the grid (including solar).

Blythe says New Zealand is a world leader in using renewable, clean energy combined with EVs to reduce emissions.

Fleet managers and others are expected to be involved in the Wellington project, providing feedback to fine tune it.

Wellington Electricity chief executive officer **Greg Skelton** says the project will help understand the technologies involved, benefits and future regulation.

The project will involve companies involved in EV smart charging technology, virtual power plants, connectivity and other related activities such as GoodMeasure which connects distributed energy resources to software platforms.

Meanwhile, the Wellington City Council has installed 30 EV street chargers in areas with limited off-street parking, with plans for 20 more.

EV Charging Infrastructure

