EV talk



AUSTRALIA'S NEWS SOURCE FOR ELECTRIC, INTELLIGENT AND AUTONOMOUS TRANSPORTATION VOLUME 2 | ISSUE 2 | NOVEMBER 2019

Australia stuck in the EV slow lane

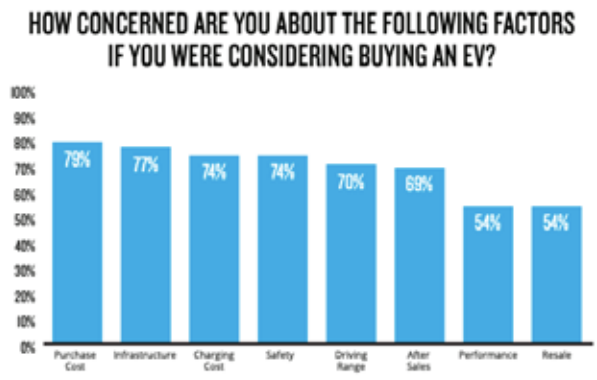


More education about EVs, increasing awareness of them, reducing EV pricing and better charging facilities will "kick the automotive industry into gear", a recent Nielsen survey in Australia shows.

The Nielsen report *Caught in the Slow Lane, Australian Adoption of Electric Vehicles* outlines the main barriers to EV uptake which is well below most similar markets in Europe, Asia and the US.

"While there is a strong desire among Australians to 'do their part' to improve the environment and reduce their carbon footprint, their willingness to change habits and buy electric vehicles is stalled," Nielsen automotive lead **Michael Brown** and Nielsen readership lead **Adam Axiak** say in their report.

"For instance, while electric vehicle sales in Australia reached an all-time high in 2018, the number is still very low when compared to other markets, with only 1352 sold in Australia versus 1.2 million in China, 360,000 in the US and even New Zealand sold 3682 electric vehicles."



The report says three issues must be resolved, including education and awareness.

"With only 16% of people believing that they are adequately informed about electric vehicles there is a real opportunity for the automotive industry to

Continued on page 2

INSIDE

Auto Camp checks electrics 3
Evie Networks' opens charger 4
Get those EV plate labels on 7
Adelaide battery may cut costs 10





Kia delays new e-Niro for Australia

Kia's decision to withhold its new e-Niro SUV from the Australian market underscores a need for policy change, the Electric Vehicle Council Australia says.

It's the latest example of how the nation is missing golden EV opportunities being seized by other nations, the EVC says.

"Kia announced on November 14 it will withhold the cutting-edge e-Niro SUV from Australian drivers because the company's policy is for the e-Niro to go 'to countries that have CO2 regulations and have legislation in place'," the council says.

About 80% of the global new vehicle market has a fuel efficiency standard in place, including the US, where it was introduced in 1975.

"A country that can't get its head around legislation the world moved on in the 1970s, won't be taken seriously by investors," EVC chief executive officer **Behyad Jafari** says.

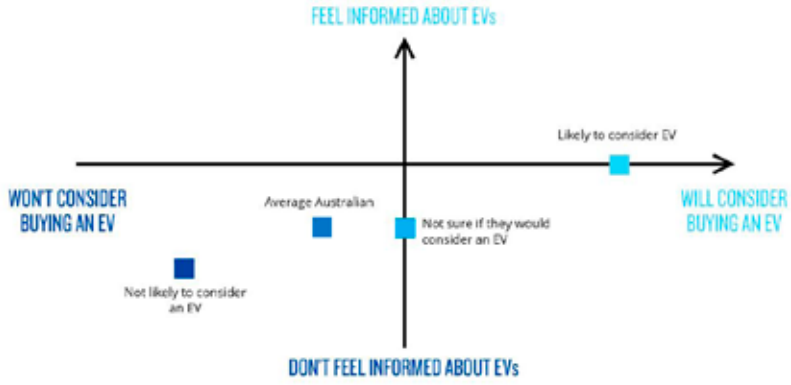
"Unfortunately, the unambitious approach of our government will mean Australians continue to miss out on new transport tech while the rest of the world benefits.

"Australian industry and Australian entrepreneurs are working hard to generate opportunities that are being squandered by our decision makers. Governments say they recognise the economic, health, environmental benefits of EVs, but that's not reflected by our policy

Continued on page 10

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HOW INFORMED AUSTRALIANS FEEL vs CONSIDERATION TO PURCHASE AN ELECTRIC VEHICLE



EVtalk

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Continued from page 1

educate them regarding the unique benefits of electric vehicles," the authors say.

"There are mixed results when it comes to awareness of brands offering electric cars – 16 % of respondents called out Tesla, 11% Toyota, and 5% BMW, Nissan and Hyundai. Interestingly, when asked to select a brand they thought sold electric vehicles in Australia, 23% selected brands which don't and 12% reported no manufacturers sell these types of cars in Australia."

Another issue is perceived value.

Nearly 80% of Australians say price is the key factor to entice them to buy an EV, according to the report. As many as 50% said they would pay only $20,000-$30,000.

"This is a major barrier to sales considering vehicles at the lower end, such as a Hyundai Ioniq, retail from $45,000 plus on road costs, while a Nissan Leaf costs around $50,000. It is, therefore, no surprise that luxury car buyers are driving electric vehicle sales as they can afford to pay the premium."

The third issue raised in the report is vehicle range and infrastructure.

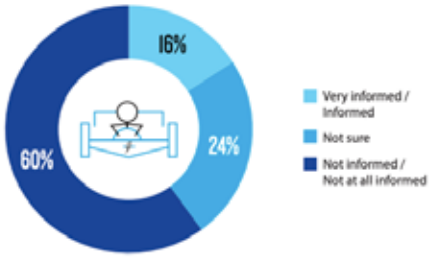
"As many as 47% of people believe electric vehicles can only travel 100-300km before recharging. Yet, despite most people claiming to drive less than 80km a day, the dangers of running out of charge on long road trips is a major deterrent to purchase. Furthermore, 77% of Australians say the lack of public infrastructure is another key deterrent. This is demonstrated by the fact that there are only 800 charging stations in Australia, compared to over 6000 petrol stations."

Some 24% of survey respondents intend buying an EV, despite the survey showing about 74% are worried about EV safety – although most popular EVs do very well in crash test safety ratings.

Nielsen interviewed 10 senior automotive marketers, 1000 Australians, more than 18 car owners and reviewed attitudinal and behavioural views from Nielsen emmaCMV.

More information is provided in the associated *Australia's Adoption of Electric Vehicles 2019 Report*, which details Australian's slow electric vehicle adoption rate in detail, and talks about what is holding back adoption and who are the EV buyers.

HOW INFORMED DO AUSTRALIANS FEELS ABOUT ELECTRIC VEHICLES



ELECTRIC VEHICLES HAVE NOT SEEN MUCH LOVE FROM NEW CAR BUYERS IN AUSTRALIA. THE ADOPTION RATE IS LOWER THAN IN OTHER MARKETS. HOWEVER, AUSSIE CONCERN FOR THE ENVIRONMENT IS GROWING RAPIDLY. THIS REPORT DEEP DIVES ON WHAT IS HOLDING BACK ADOPTION AND WHO ARE ELECTRIC VEHICLE BUYERS. WE HOPE THIS HIGHLIGHTS AREAS FOR THE GOVERNMENT AND AUTOMOTIVE INDUSTRY TO DRIVE CHANGE TO BETTER OUR ENVIRONMENT.

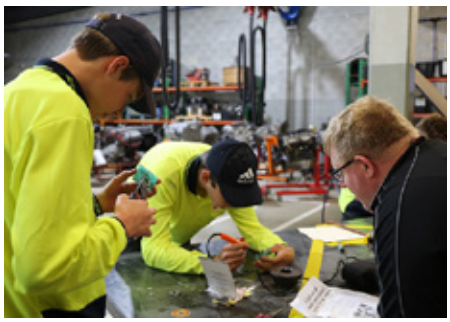
MICHAEL BROWN
Automotive Lead, Nielsen

AWARENESS OF ELECTRIC VEHICLES IN AUSTRALIA





EVs in automotive school holiday programme







A high school holiday programme delving into the automotive industry that includes EVs, hybrids and battery cell technology is planned in December by the Motor Trades Association of Queensland.

Auto Camp on December 11-13 is designed for 14 to 17-year-old students attending school.

The programme provides an opportunity similar to work experience, enabling participants to get hands-on in a range of learning tasks that reflect what a career in the automotive industry could look like.

The course covers traditional areas of vehicle education, like vehicle maintenance and the location and function of components, as well as newer concepts like hybrid and electric vehicles and battery cell technology.

"There is a huge gap for young people attending school, to get exposure to working in a particular industry," MTA Queensland group chief executive officer **Dr Brett Dale** says.

"Also, there are so many new and exciting opportunities in the automotive field connected to technology and innovation.

Working with hybrid and electric cars and technical diagnostics linked to artificial intelligence and autonomous functionality are just some of the new skill sets required for the automotive technicians of the future," he says.

"If young adults at school are not aware of these new developments in the automotive industry, it would be easy to dismiss it as a career option, as there are likely preconceived ideas of it being a less technical and laborious trade. The new era is connected to STEM skills and there is so much opportunity for students who excel in these areas."

MTA Queensland has already had students undertake Auto Camp and go on to an apprenticeship.

"This is a fantastic outcome as the industry has an enormous skills shortage. It also means the chances of being employed in the industry are very high," Dale says.

The programme is held in a state-of-the-art automotive training workshop fitted out with booths for hybrid/electric training, welding, paint and panel, and a range of car and truck engines to learn from.

Class sizes are limited to 20. Costs of $275 include lunch each day.

First of Evie Network's 42 ultra-fast charging stations opens

Evie Networks has opened the first of 42 ultra-fast EV charging stations using renewable energy in Australia at Coochin Creek between Brisbane and the Sunshine Coast.

The 24-hour 350kW charging station has been built by Tritium, with charging free for the first month.

After this, Evie customers can use a pay-as-you-go system via the Evie app, available on both iOS and Android devices, or an RFID card which can be ordered via the app.

Using a solar canopy which also shelters people charging their EVs, the Coochin Creek charger complements a network of 18 EV fast chargers in coastal cities by the Queensland Government.

The station has two charging heads and can support four more.

The station opening represents a landmark moment in Australian electric motoring, Evie Networks chief executive officer **Chris Mills** says.

"This station is the first of what will be the largest rollout of ultra-fast highway charging stations being built in Australia," says Mills, adding there's about 70 fast charging sites in Australia.

Australian Electric Vehicle Association Queensland chairman **Jon Day** says the station is "a fantastic addition to the Australian electric vehicle infrastructure network".

"It really opens up the corridor between Brisbane and the Sunshine Coast for electric vehicle drivers like me, with the benefit of charging at the maximum speed my EV can handle."

Day says it's especially a real game-changer for lower-range EVs with smaller batteries because it means they have an easily accessible 24/7 charging option just off the highway.

"The proximity to so many amenities and the protection provided by the solar canopy are also a real step up from every other charging station I've used."





The Evie Network system will allow all vehicles regardless of their age, battery size or connection type, to charge at a faster rate than is currently accessible anywhere in the country.

Evie Networks is backed by the St Baker Energy Innovation Fund's $35 million contribution, which is accompanied by a $15m recoupable grant from the Australian Renewable Energy Agency (ARENA).

Visit **https://www.goevie.com.au/** for more information.

Darling Downs $200m solar farm opens

The 110MW Darling Downs solar farm has opened, capable of powering up to 36,000 homes.

It's yet another milestone well on the way in Queensland's move toward a 50% renewable energy target by 2030, energy minister **Dr Anthony Lynham** says.



Dr Anthony Lynham

"We've got more than $5 billion worth of renewable energy projects either generating, underway or financially committed across Queensland with one third of this investment in the Darling Downs alone," he says.

"This latest solar farm owned by APA Group is one of five clean energy generators to come online in the Darling Downs region in just three years and is one of Queensland's 30 clean energy generators."

That's expected to boost EV uptake in the state as well.

Lynham joined APA Group executives on November 12 to inspect the 402ha solar farm with more than 423,000 solar panels 45km west of Dalby, the $200 million facility the latest clean energy generator to enter the National Electricity Market.

It comes as three more large-scale solar farms are under construction in the Darling Downs and is APA Group's sixth clean energy project in Australia.

APA Group chief executive officer and managing director **Rob Wheals** says it's a world-class renewables facility showing APA's commitment to sustainable and responsible energy.

"It showcases what can be achieved when industry, government and communities come together with a common goal." ■









Sydney EV expo attracts 4000 people

The Australian Electric Vehicle Association (AEVA) held its EV expo in Sydney from October 26-27, allowing an estimated 4000 people to check out the latest in the EV market and to hear from experts.

AEVA Queensland treasurer and EV conference committee member **Simon Pfuhl** says the 4000 people that came through the doors crossed over from the neighbouring property show.

"A highlight for us was that the property show had less people," Pfuhl jokes. "It was helpful for us as we did share people."





Pfuhl says people were able to test drive a range of different electric vehicles, and everyone who did had to sign a waiver. Around 660 people took part in a test drive, on EVs like the Mirai, Kona, Leaf, and BMW i3.

"There was a good variety of electric vehicles," Pfuhl says. "We had people with e-bikes and e-scooter stalls, and most of them had close to 100 test rides."

"We had a good variety overall. There were a couple of race cars for viewing only."

Hyundai and Nissan sent representatives to the expo to educate the public and present its EVs. Nissan Australia, a major sponsor, opened the EV expo.

Pfuhl says the event had support from charging networks such as Chargebox and carcharger.com.au.

There were 27 stalls at the exhibition, one of which was replaced by an electric forklift after the stall owner pulled out at the last minute.

"The guy that owned it offered it to show," Pfuhl says. "People don't realise that bigger EV machinery is available."

AEVA organiser **Bryce Gaton** says the convenience of electric vehicles is greater than what most people realise.





"The EV expo is about trying to get ordinary people to touch, smell and learn about electric cars without being hit with advertising or feeling like they need to sign themselves up to something – we want people to introduce themselves in their own time without coercion," he says.

"We want to see people within the automotive industry take part and get involved, especially people who work within dealerships because ultimately, you're going to end up selling electric cars, if not already."

EV warning label reminder

Electric vehicle warning labels must be displayed on all EVs and hybrids from January 1 next year, the New South Wales Roads and Maritime Services (RMS) says.

The rule was introduced in NSW on September 1, 2019, but an exemption applies for electric and hydrogen powered vehicles until January 1, 2020.

It already applies in Victoria but the regulation has still to be adopted in other states and territories.



While NSW has a blue triangle with "EV" in it and a yellow pentagon with "H" for hydrogen, Victoria has a diamond-shaped EV label

The warning labels are designed to alert emergency services and first responders about an EV's lithium-ion battery and a hydrogen vehicle's fuel system because of the risks associated with them following a crash or incident.

Drivers of EVs, hybrids and hydrogen powered vehicles in NSW will receive labels and attachment instructions for their use on number plates in the mail.

The rule affects electric, hybrid and hydrogen vehicles made or modified after January 2019, such as the Hyundai Ioniq range of battery electric vehicles (BEVs), plug-in hybrids (PHEVs) and hybrids.

The labels go on the front and back plates in EVs and hybrids, but on just the rear plates for electric and hybrid motorbikes and scooters.

Drivers failing to display the NSW warning labels after January 1 next year risk a fine – the amount unstated both in NSW and Victoria, although the latter says a defect or a fine can be issued at a police officer's discretion.

The symbols do not appear to be universal.

While NSW has a blue triangle with "EV" in it and a yellow pentagon with "H" for hydrogen, Victoria has a diamond-shaped EV label

A letter from RMS in NSW says the labels have been introduced "as a safety initiative to help Emergency Services staff and first responders in the event of a crash".

"They will allow vehicles to be quickly identified as having an electric or hydrogen component, so specific procedures can be used to make the incident safer for everyone."



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Racing into the future with the ABB FIA Formula E Championship

STORY COURTESY ABB REVIEW

The ABB FIA Formula E Championship is a versatile platform for testing and demonstrating e-mobility electrification and digitalisation technologies.

This annual event has 22 drivers racing in advanced electric race cars with the championship running since Beijing in 2014 and title-partnered by ABB since January 2018.

The sound of silence

Perhaps the most notable aspect of ABB Formula E is the lack of noise.

Since its inception, ABB Formula E has taken a radically different approach by adopting battery-powered cars driven by high-efficiency electric powertrains that use some of the world's most advanced e-mobility technology driving on city-centre racetracks around the globe.

From strength to strength

In under five years, ABB Formula E has blossomed from a start-up into a sporting property of such relevance that major car manufacturers are keen to flaunt their e-mobility credentials.

Already the likes of Audi, BMW, Nissan and Jaguar have leading teams, soon to be joined by Porsche and Mercedes-Benz.

The championship is flourishing because of its relevance in helping meet concerns about sustainability, energy efficiency, pollution and urban congestion.

Putting the 'E' into ABB Formula E

Each of the 11 two-car, two-driver, teams competes with their own variant of the same basic machine - an open-cockpit single-seater built around an impact-resistant and highly protective carbon-fibre monocoque which cocoons the driver.

Better batteries

The cars' batteries are built and supplied by McLaren Applied Technologies (MAT) – a sister company of the McLaren racing team.

The battery's increased capacity and efficiency allows ABB Formula E cars to complete a full race distance on a single charge. Over the first four seasons of racing, technological limitations meant that drivers would drive half the race in one car then swap to an identical machine with a full battery.



The ABB Formula E championship. Photos: Marc de Mattia/ DPPI

This drew attention to a specific consumer hesitancy that has hindered widespread EV adoption - range anxiety. The Gen2 car's bigger battery pack counters that concern, however, thanks to a 95% energy increase for a 20% weight gain.

MAT's Gen2 battery pack was developed mainly for temperature management. Its internal lithium cells are highly sensitive to temperature. Too cool and efficiency is not optimised, too hot and output life suffers.

Technology test platform

ABB Formula E provides an ideal rigorous environment in which companies can put their new technology through its paces.

All cars incorporate regenerative braking systems that harvest significant energy. Each car's "regen balance" was controlled by the driver, but electronic control introduced for season five enhanced the process.

This is the kind of sophisticated energy management technology that is invaluable to car manufacturers in developing class-leading road models.

Taking charge

ABB brought its technical expertise to the Jaguar I-Pace eTrophy series that supports ABB Formula E.

The race-prepared version is powered at the trackside by custom-made variants of ABB's Terra 53 DC charger. To meet the demands for a charger that could be both mobile at racetracks and easily transported between them, ABB commissioned a team of its engineers to reconfigure a standard Terra unit into a smaller package, with wheels, for easy freighting and maneuverability.

Season six starts on November 22 and 23 with the Diriyah E-Prix in Saudi Arabia and ends in London on July 25 and 26 next year.



Kiwi Simon Evans in the Jaguar I-Pace e-Trophy



Hydrogen export facility underway in Victoria

Work is under way on a hydrogen export pilot project facility in Victoria, Australia and it's aiming to be the largest of its kind in the world.

Latrobe Valley brown coal will be turned into hydrogen gas as part of the world-first pilot.

The hydrogen gas will then be transported to Port of Hastings where it will be liquified and shipped to Japan for use in fuel cell vehicles and power generation.

The government-backed project also aims to boost local industry knowledge and expertise in the production and use of hydrogen, while also boosting jobs.

It has the potential to put Victoria at the forefront of the fast-growing hydrogen industry, which is expected to be worth $2.5 trillion globally by 2050.

The pilot is expected to create 400 jobs in the Latrobe Valley and Hastings regions with the potential for thousands more if the project proceeds to the commercial phase.



The pilot project is also being developed by a consortium of Japan's top energy and infrastructure companies, including Kawasaki Heavy Industries, J-Power, Iwatani Corporation, Sumitomo Corporation and Marubeni Corporation.

The pilot will be required to offset all the minimal greenhouse gases produced. Successful carbon capture and storage is a necessary condition for the programme to progress to full commercial scale.

"We are proud to back this world-first first project which will put Victoria at the forefront of the global hydrogen industry," economic development minister **Tim Pallas** says.

"The Andrews Labor Government is growing jobs and industry in the Latrobe Valley and working with our partners in Japan as we transition to a low carbon energy future," he says.

J-Power chairman **Masayoshi Kitamura** says work has started in what will be "a pivotal world-first initiative aimed to safely produce and transport clean hydrogen from Victoria's Latrobe Valley to Japan".

SEA Electric gets 100 Hino EV truck order

Commercial EV service provider Zeem Solutions in the US has placed an order for 100 all-electric Hino 195 EVs with Australian automotive technology company SEA Electric.

The medium commercial EVs will be assembled by Fontaine Modifications in the US and deployed in California.

"We're excited to be adding 100 all-electric Hino 195 EVs from SEA Electric to our fleet in order to service the California market", Zeem Solutions chief executive officer **Paul Gioupis** says.

"We are starting in our Los Angeles and Sacramento locations because we can efficiently service our trucks as well as inventory spare vehicles to have lessen down-time for customers," he says. "Once we have successfully deployed in Los Angeles and Sacramento, we will be rolling additional units out in San Francisco and San Diego."



Tony Fairweather

SEA Electric founder and president **Tony Fairweather** says all the units will be delivered throughout 2020, starting in the first quarter.

The SEA Hino 195 EVs are powered by the SEA-Drive 120a power system, offering 80kW continuous power, 128kW maximum power and a maximum torque of 1500Nm providing 321km range, zero emissions, fewer moving parts and lower operating costs.

Fontaine has already started assembling the first unit, Fairweather says.

Adelaide battery project could cut EV costs

A University of Adelaide designed and patented battery technology could revolutionise electricity storage by providing a safer, cheaper and more reliable model.

The project has secured a A$1million research contract with Chinese battery manufacturer Zhuoyue Power New Energy to bring it to market in about a year.

The new design uses non-toxic zinc and manganese, two metals abundant in Australia, and incombustible aqueous electrolyte to produce a battery with a high energy density.



The University of Adelaide

"I can imagine this battery being used on all vehicle types from small scooters to even diesel electric trains. Also in homes that need batteries to store solar power, or even large solar/wind farms," battery designer **Dr Dongliang Chao** says.



Dr Dongliang Chao

The high energy safe battery opens up markets where the battery weight, size and safety are essential factors, including automotive and aerospace, and domestic and commercial buildings, and grid-scale energy storage.

Chao and professor **Shi-Zhang Qiao** from the university's School of Chemical Engineering and Advanced Materials say the potential for the technology is huge.

"With more sustainable energy being produced – such as through wind and solar farms – storing this energy in batteries in a safe, non-expensive and environmentally sound way is becoming more urgent but current battery materials – including lithium, lead and cadmium – are expensive, hazardous and toxic," Chao says.

"Our new electrolytic battery technology uses the non-toxic zinc and manganese and incombustible aqueous electrolyte to produce a battery with a high energy density. The high energy safe battery opens up markets where the battery weight/size and safety are essential factors, such as automotive and aerial vehicles, and domestic and commercial dwellings."

The battery uses basic materials and simple manufacturing processes, so will be much cheaper to produce and easier to recycle than existing batteries of comparable energy density, Chao adds.

The cost of the new electrolytic Zn–Mn battery is estimated at about US$10 per kWh – much less than for lithium-ion batteries of US$300 per kWh, Ni–Fe batteries US$72 per kWh, and lead–acid batteries US$48 per kWh, the researchers say. ■

Kia delays new e-Niro for Australia

Continued from page 1

settings."

The EVC wants fuel emission standards introduced and greater investment in fast charging infrastructure for country-wide EV uptake.

"We know people in Australia want to buy and drive electric vehicles," Jafari says.

"But we need better infrastructure to link our cities and major networks and we need the full range of new and exciting electric vehicles hitting out market.

"Both of these problems could be fixed by the government quite swiftly."

"KMC policy is e-Niro goes to countries that have CO2 regulations and have legislation in place, that's the issue with us in relation to getting e-Niro," Kia Australia chief operating officer **Damien Meredith** tells Carsguide.

The Kia Soul EV may be in delayed for Australia too.

Kia Motors Australia media and corporate communications general manager **Kevin Hepworth** says they're keen to get both EVs in Australia but Kia is putting them first in markets where regulations and other incentives apply.

"We'd love to have the e-Niro and Soul EV here," he says.

"We've made a strong business case to Kia to have these cars and I believe we will get them but not in as timely a fashion as we'd like." ■



The Tesla Model 3 seems to continue having an impact in the latest EV sales.

Tesla Model 3 still influences EV sales

The Tesla Model 3 still appears to be having an impact on EV sales in Australia, latest VFACTS figures indicate.

More than 2400 were expected to be delivered in Australia in September, and although Tesla doesn't reveal exact amounts, the October figures tend to show that while the number of Model 3 sales may have slowed it's still helping push EV sales along in the passenger categories.

For instance, private passenger EVs increased from 14 in October 2018 to 69 in October 2019 (up 392.9%) and rose in year-to-date (YTD) sales from 208 in 2018 to 381 this year – an 83.2% increase.

Likewise in the non-private passenger category, electrics and plug-in hybrids (PHEVs) went from six in October 2018 to 53 in October 2019 – up 783.3%, and increased YTD from 346 to 428 (23.7%).

But hybrids continue to make big strides, dominating EVs in many categories.

In the private passenger sector, hybrids chalked up 456 sales in October 2019 as against 289 for October 2018 (57.8%) and went from 3111 to 5339 in YTD comparisons – up 71.6%.

For non-private passenger vehicle sales, hybrids soared from 669 in October 2018 to 1267 in October 2019 – up 89.4%, while YTD sales went from 6501 in 2018 to 10,823 in 2019, a 66.5% increase.

EVs and hybrids also carry on the trend in the SUV categories.

Electrics and PHEVs go from 32 to 75 (134.4%) in October comparisons for private SUVs, increasing YTD as well from 145 to 678 (367.6%).

Hybrids here went from 61 in October 2018 to 567 in October 2019 – up 829.5%, while YTD sales soared from 564 to 4090 - a 625.2% jump.

In the non-private SUV sector, electrics and PHEVs also rise from 39 in October 2018 to 75 in October 2019 (92.3%) and from 436 to 879 in YTD comparisons (101.6%).

Hybrids took off in this SUV category also. They went from 70 in October 2018 to 459 in October 2019 (555.7%) and YTD from 807 to 2922 (262.1%).

The only other electric/PHEV sales sector shown is the light commercial non-private category which went from three in October 2018 to just one in October 2019 (down 66.7%), but increased slightly YTD from 14 to 25 (78.6%).

However, the figures also show most diesel and petrol vehicle sales in the various categories continue to decline.

In releasing the latest VFACTS figures, the Federal Chamber of Automotive Industries (FCAI) chief executive **Tony Weber** says new vehicles have now seen the 19th consecutive month of decreasing sales in the Australian market.

October 2019 sales were down 9.1% overall compared to October 2018. ■

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

	Month		YTD		Variance +/- Vol. & %			
Total Market	2019	2018	2019	2018	MTH	YTD	MTH	YTD
ELECTRIC								
Passenger Private	69	14	381	208	55	173	392.9%	83.2%
Passenger Non-Private	53	6	428	346	47	82	783.3%	23.7%
SUV Private	75	32	678	145	43	533	134.4%	367.6%
SUV Non-Private	75	39	879	436	36	443	92.3%	101.6%
Light Commercial Non-Private	1	3	25	14	-2	11	-66.7%	78.6%
Sub Total	273	94	2,391	1,149	179	1,242	190.4%	108.1%
HYBRID								
Passenger Private	456	289	5,339	3,111	167	2,228	57.8%	71.6%
Passenger Non-Private	1,267	669	10,823	6,501	598	4,322	89.4%	66.5%
SUV Private	567	61	4,090	564	506	3,526	829.5%	625.2%
SUV Non-Private	459	70	2,922	807	389	2,115	555.7%	262.1%
Sub Total	2,749	1,089	23,174	10,983	1,660	12,191	152.4%	111.0%
TOTAL	**3,022**	**1,183**	**25,565**	**12,132**	**1,839**	**13,433**	**60.9%**	**110.7%**

Electrifying Conversations Conference sparks interest

The inaugural Electrifying Conversations Conference run in conjunction with Big Boys Toys brought some high-profile people to the ASB Showgrounds event in Auckland, New Zealand, on November 1.

Prime minister **Jacinda Ardern**'s partner **Clarke Gayford** turned up briefly with baby **Neve** in a Hyundai Ioniq but didn't stay for the conference.

Associate transport minister **Julie Anne Genter** was expected too but was unable to attend because of other work commitments, instead sending a video message from Napier congratulating organisers and saying it's one of the first events of its kind in the world.

Leading lights in the electric vehicle world were among more than 150 people at a packed-out conference venue, the attendance delighting organiser **Dee West** of sponsor ChargeNet NZ.


Rod Drury

Philippe Vangeel from Belgium led off the conference, explaining the work of his organisation, the European Association for Electromobility (AVERE), formed in 1978 in response to the oil shocks of that era. AVERE has networks throughout Europe and works with academics, policy makers and industry to promote electric and other non-oil transport forms.

Vangeel says the top three EV concerns from three to seven years ago have all since gone.

"The high purchase costs, limited driving range and limited charging infrastructure have all changed or are changing," he says.

New and improved technologies are bringing battery prices down and making EVs more affordable as a result, he adds.

Vangeel says transport in all its forms is becoming "connected, autonomous, shared and electric", suggesting all sectors should work together on it.

"We all have a high life expectancy now but if we don't change the world our children won't have that life expectancy," he says, referring to climate change particularly.

Tech entrepreneur and Xero founder **Rod Drury** put a cat among the EV pigeons by suggesting New Zealand would do better to develop hydro power rather than solar or wind power.

Drury says he's been studying trends since "retiring" and he believes New Zealand is best suited to producing more energy from hydro dams and geothermal resources which he believes are too inefficient.

"We do have a version of Saudi Arabian oil in renewable energy," he says.

Talking with politicians and others, Drury says New Zealand has the topography for hydro dams and should just get on with building more.


Sergio Baron

Sergio Baron of Argentina outlined his work with Dynami in designing and developing batteries, saying new battery technology is just a few years away.

He says changes in the battery industry have been rapid and help drive the EV evolution, helping produce faster charging vehicles with longer range.

Batteries are expected to have long life too, also being used for energy storage for many years once no longer useful in EVs and then being recycled.

The development of electric air transport was canvassed at the conference, some seeing that as a major transport change with New Zealand suited to electric short haul flights.

Most agreed that it wasn't always a matter of waiting for the government to inspire change but just for everyone to work together and get on and do it.

NZ passes Zero Carbon legislation

The passing of the Climate Change Response (Zero Carbon) Amendment Bill in the New Zealand Parliament on November 7 will help ensure a safe planet for our kids and grandkids, climate change minister **James Shaw** says.

The landmark legislation provides a framework to support New Zealanders to prepare for and adapt to the effects of climate change, including reducing transport emissions through promoting low to zero emission vehicles like EVs.

The bill was passed by 119 of 120 MPs.

Yet to receive royal assent from the governor general for the bill to become law, it will enshrine a new 2050 greenhouse gas reduction target into law and require that future governments have plans to meet the target, setting emission budgets every five years.


James Shaw

An independent Climate Change Commission will be established by the end of this year to advise and support governments to reach the target.

"This is a historic piece of legislation and is the centrepiece for meaningful climate change action in New Zealand", Shaw says.

"We've led the world before in nuclear disarmament and in votes for women, now we are leading again."

The bill had nearly 11,000 written and oral submissions.

The Zero Carbon Act is a key part of the Government's plan to tackle climate change.

Other initiatives include a stop to issuing any new permits for offshore oil and gas exploration, investing in green hydrogen and biofuels with the goal of 100% renewable electricity generation by 2035, proposals to make electric cars more affordable.

UBCO releases 2020 product range

Kiwi electric utility motorcycle maker UBCO has released its new range of products and announced UBCO Journeys, a docked ridesharing business targeting tourism spots globally.

"By providing a range of vehicles, power supplies, accessories and subscription software, we are delivering an integrated product set that leverages the benefit of modern electric drive and battery technology without compromise," UBCO chief executive officer **Timothy Allan** says.

"This is the biggest single release of product in the company's history and represents two years of work from the whole team."

UBCO launched its 2020 range at UBCON19 in Queenstown, including two variants of the fifth generation 2x2 Utility Bike, three variants of the KXH Portable Power System at 40, 50 and 60Ah; the Freeride trail bike FRX1, a limited edition UBCO 3 Wise Men Urban 2x2 with a range of associated clothing and accessories, and fully integrated telematics for both fourth and fifth generation 2x2 bikes enabling advanced individual and fleet management.

Production is scaling up to meet demand with new appointments in engineering, and supply chain in New Zealand and Asia, the company recently surpassing 100 dealers globally.

The 2020 2x2 Utility Bike has a range of advancements with a common new generation drive train and power system, vehicle management system, telematics, control clusters and more.


UBCO has launched several new electric motorbikes

"It delivers on so many areas where we have learnt from our customers and users," chief procurement officer **Tom Hayward** says.

The 2x2ADV Adventure Bike continues UBCOs dual-purpose tradition with full road compliance in Australasia, United States and Europe. It packs a portable power supply.

The 2x2WK Work Bike is an off-road work horse for the farmer, hunter, property owner and others.

The KXH Portable Power System is a new product range for UBCO, providing external power on the go and comes in an exo-frame (available separately) for ease of carrying and attachment. With 12v and 5v ports it can power a wide range of devices up to 60Ah and can also be removed from its frame and placed into the bike.

The light FRX1 trail bike is aimed at customers who wouldn't normally ride a heavy motocross bike and provides extra power to reach difficult places.

The UBCO 3 Wise Men limited edition bike features a range of customisations which includes a special rack for the canvas leather satchel that comes with each bike.

UBCO Journeys uses an integrated telematic control unit (TCU) in targeting the destination tourism market. The rideshare platform was developed in conjunction with Auckland electric moped company Kwikli.

The first pilot is expected to be operational by January 2020.

UBCO was founded in 2014 with a prototype 2x2 electric farm bike and has now sold more than 1000 units globally.

E-bikes start Queenstown rubbish and recycling collections

Two electric bikes have begun collecting rubbish and recycling from public litter bins in the Queenstown and Wanaka town centres.

The e-bike collections are a New Zealand first and just one of a number of environmentally friendly solutions to ensure a smarter waste service for the district, Queenstown Lakes District mayor **Jim Boult** says.

The e-bikes hit the streets from November 4 in Queenstown and will be in Wanaka shortly, removing the need for large trucks circulating the town centre streets to empty the public bins, he says.

"Not only does this play a part in reducing congestion in the town centres, it also lowers carbon emissions and is cheaper to operate."

As part of the new initiative, the e-bike drivers will also be providing community education on how to appropriately dispose of waste in the public litter bins.



Jim Boult on a rubbish and recycling collection e-bike

The rubbish and recycling collection fleet already includes one electric truck and two three-way split-body trucks allowing for one vehicle to complete a full collection of both rubbish and recycling while keeping the materials separate.

The e-bike collections run during summer.

E-bikes are already being used by the Queensland Lakes District Council parks and reserves teams in Wanaka and Queenstown working between the many council reserves and gardens.

EV Charging Infrastructure

