

# Market Update

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## Registration Summary:

- SUV registrations have maintained their dominance as the preferred choice for Kiwi drivers. Q3 2022 had over 22,000 registrations of SUV/wagons, the highest we have seen.
- The impact of clean car fees has impacted ute registrations at just over 7,000 units. While this is up significantly on the Q2 result of 3,400, it is still well below the average for the last few years of just over 8,000 units per quarter.

# The NZ Market Q3 2022

Quarterly new vehicle registrations have seen the market responding to the call for lower fuel consumption vehicles, while at the same time supply issues are still disrupting the market.

With petrol prices increasing rapidly to well over \$3 per litre in 2022, in tandem with government initiatives to incentivize fuel efficiency, there has been a steady and seemingly inevitable shift in buying behavior. The vehicle manufacturers have responded with more hybrid and pure electric vehicles available in the market.

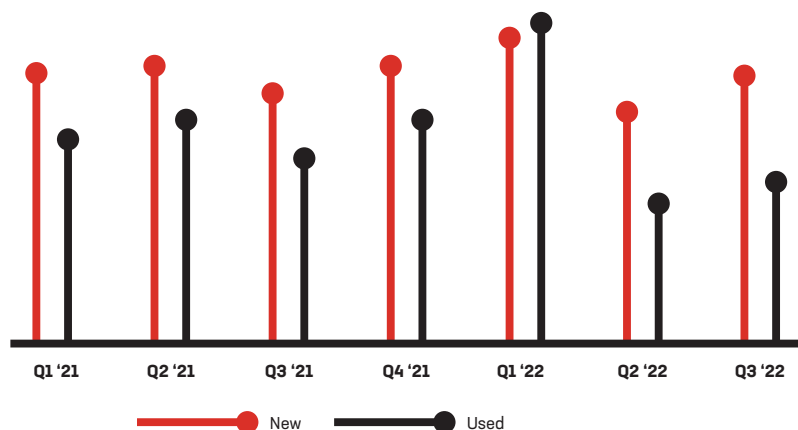
In 2019 there were 467 sales of pure EV's or Hybrids in the top 10 sellers, making up 1.3% of those sales, in 2022 YTD there are 12,058 EVs or Hybrids in the top 10 selling models, making up 40% of those sales.

Rental registrations have boosted YTD registrations by over 9,100 units. This is 7.5% of all new vehicles registered this year and when compared to 2018 (1.8%) and 2019 (3.2%) this indicates that we are expecting

a significant influx of tourists with the NZ borders now fully open.

Used import registrations remain low with only 25,000 units registered in Q2 2022, compared to the average for 2021 of over 32,000 units. Registrations of smaller vehicles like the Aqua, Prius, Axela, Leaf and Corolla remain strong.

## NZ Vehicle Registrations





## Top Models:

- The Toyota Hilux (2,840), Ford Ranger (2,555), Mitsubishi Outlander (2,228), Tesla Model Y (2,083) and Toyota Rav4 (1,444) make up the top 5 selling vehicles of Q3 2022.
- Ute sales have started to recover, following unprecedented pre-registrations in Q1 to beat the clean car fees, followed by a lacklustre Q2. The volumes for Q3 are still below the volumes seen in 2021.
- This quarter has seen the ongoing rise of pure EV registrations with the Tesla Model Y (2,083), the Model 3 (797), and the BYD Atto 3 (689) taking out spots 2, 7 and 12 respectively in the highest selling passenger vehicles for the quarter.
- Once again smaller and more fuel-efficient vehicles are showing some prominence in the passenger segment with the Swift at 5 (with an average fuel efficiency of 5.1 litres per 100km) and the Yaris Cross (average 4.5 litres per 100km) coming in at number 10. Over one quarter of Outlander sales are the plug-in hybrid version at 1.5 litres per 100km fuel efficiency and 75% of the Rav4 sales are the hybrid with 4.8 l/100km efficiency. It is interesting to note that the Highlander has seen some resurgence since the introduction of the hybrid version, with 697 sales compared to average sales of 345 per quarter in 2021/22.

The top 20 makes YTD are below:

| MAKE          | Q2 '21 | Q3 '21 | Q4 '21 | Q1 '22 | Q2 '22 | Q3 '22 |
|---------------|--------|--------|--------|--------|--------|--------|
| Toyota        | 6,768  | 6,941  | 5,119  | 5,893  | 5,470  | 8,232  |
| Mitsubishi    | 5,428  | 4,815  | 8,801  | 8,302  | 7,020  | 5,199  |
| Ford          | 3,917  | 4,422  | 5,137  | 4,914  | 1,584  | 3,118  |
| Kia           | 3,125  | 1,709  | 1,893  | 2,519  | 3,586  | 3,085  |
| Tesla         | 311    | 1,453  | 1,124  | 1,301  | 12     | 2,880  |
| Hyundai       | 2,048  | 1,743  | 2,303  | 2,428  | 2,238  | 1,832  |
| Mazda         | 2,562  | 2,083  | 1,579  | 2,163  | 1,401  | 1,368  |
| Suzuki        | 2,265  | 1,944  | 1,646  | 1,589  | 2,362  | 2,207  |
| MG            | 783    | 1,049  | 1,188  | 1,489  | 1,204  | 1,197  |
| Nissan        | 2,350  | 1,353  | 2,730  | 1,759  | 667    | 795    |
| Isuzu         | 1,204  | 857    | 898    | 1515   | 464    | 681    |
| Honda         | 959    | 806    | 1,035  | 1,206  | 1,023  | 704    |
| LDV           | 808    | 620    | 764    | 1,353  | 119    | 484    |
| Volkswagen    | 1,750  | 1,204  | 967    | 938    | 900    | 872    |
| Mercedes-Benz | 825    | 737    | 560    | 871    | 647    | 610    |
| Subaru        | 836    | 542    | 598    | 689    | 592    | 601    |
| BMW           | 566    | 457    | 283    | 511    | 373    | 391    |
| Ssangyong     | 312    | 318    | 292    | 496    | 120    | 188    |
| Land Rover    | 437    | 186    | 139    | 465    | 465    | 324    |
| Audi          | 491    | 395    | 381    | 455    | 485    | 309    |
| Jeep          | 427    | 230    | 250    | 360    | 54     | 72     |
| Others        | 4,893  | 4,5926 | 5,874  | 6,715  | 4,489  | 5,481  |
| New           | 42,705 | 38,278 | 42,437 | 47,035 | 35,079 | 40,630 |
| Used          | 34,396 | 29,094 | 34,225 | 48,752 | 21,811 | 25,010 |

# NZ Economic Outlook

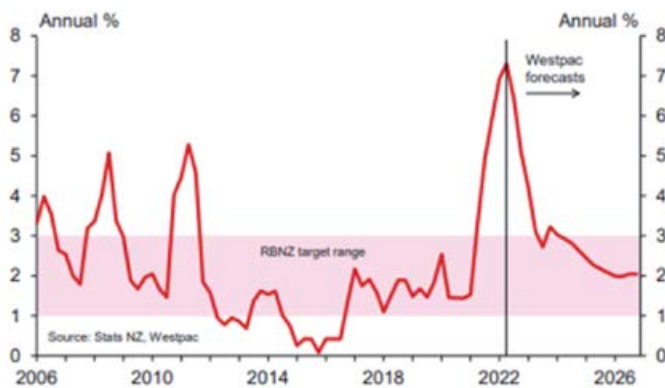
## According to the Westpac Economic Overview we are moving from a tight 'squeeze to a crush'

"The New Zealand economy is at a turning point. The impact of higher interest rates is becoming increasingly evident, and economic growth is set to shift down a gear. We're not forecasting a recession. However, growth is set to remain subdued for some time until the level of demand comes back into line with the economy's productive capacity."

"Mortgage rate fixing has blunted the impact of interest rate rises to date. However, over the coming months many households will face substantial increases in their mortgage payments."

"It will take some time for tourist numbers to fully retrace their pre-pandemic highs, especially as visitors from the high spending Chinese market are unlikely to return until around mid-2023. Even so, we expect to see tourism exports continuing to rise over the coming months as increasing numbers of visitors from other nations return to our shores."

### Consumer price inflation



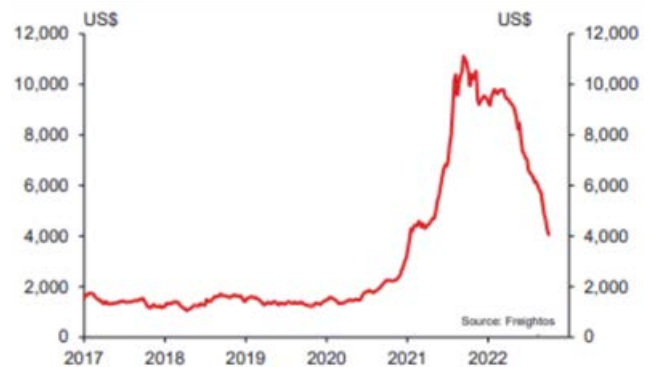
### House prices



## Some good news on shipping costs?

"Global shipping rates are still well above the levels we saw prior to the pandemic. However, they have been dropping rapidly in recent months, falling by around 60% since the start of this year. It will take some time before the full impact of those falls is felt on shop shelves here in New Zealand. Nevertheless, this does signal an easing in import costs and reduced pressure on consumer prices over the coming months."

### Freightos container rate index



[source: Westpac Economic Overview]



# The Road To Electrification

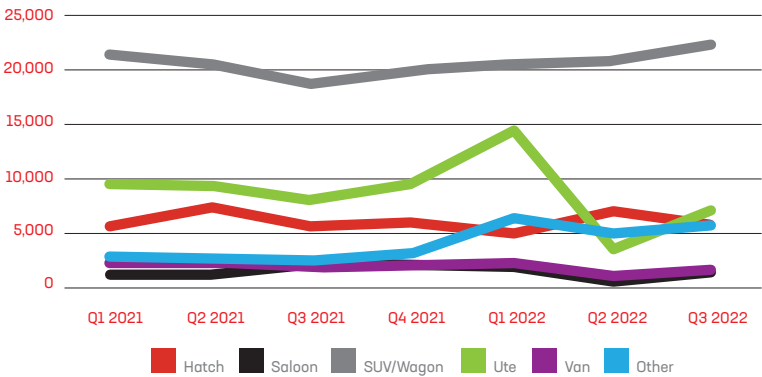


## NZ EV registrations have surged to an all-time high.

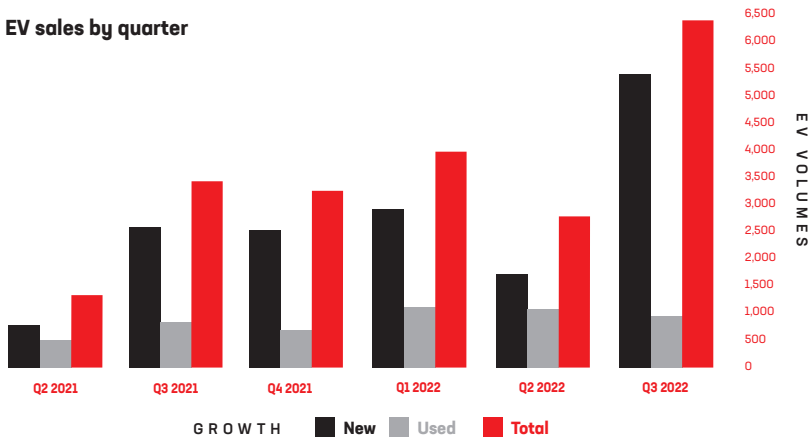
New EV registrations have nearly doubled in Q3 2022 when compared to the average of the last 4 quarters since the introduction of the Clean Car Scheme. Most of this increase was due to the arrival of shipments of Tesla's during the quarter with just over 2,000 Model Ys and nearly 800 Model 3's arriving in the quarter. Meanwhile, plug-in hybrid and hybrid vehicle registrations have dropped slightly in Q3 with 6,831 units registered versus 7,609 in Q2, but only 3,383 in Q1. Some of the hybrids are contributing to the top 10 biggest sellers in Q3, Outlander (607 of 2,227), Rav4 (1,116 of 1,444) and Eclipse Cross (527 of 807).

The market continues to introduce new brands and new electric vehicles, with OEMs globally firmly committed to designing and building all forms of electric vehicles. There is significant investment in factory facilities for the design and production of not only the vehicles, but also batteries and chips. There will continue to be supply issues until these factories are up to full operational capacity, most likely until 2024/2025.

New registrations by body type (Source: NZTA)



EV sales by quarter



# Affordability - the next EV challenge

**"We can't see the affordability of globally sought-after EV models reducing in NZ any time soon"**

The world is struggling to deal with unwinding itself from 2 years of lockdowns, supply chain constraints, hefty fuel prices and an increasingly volatile situation in Ukraine.

In those years the NZ market as we knew it flipped on its head, and the global automotive industry has swiftly embraced new EV technology.

As consumers we have witnessed an exciting time for new and emerging brands, challenging the status quo to deliver increasingly efficient models that will meet the needs of consumers.

But, in NZ at least, it looks like we have finally hit a wall.

An increasing challenge globally, and especially in NZ where virtually 50% of our fleet are used imports each year, is affordability.

What actions our local governments take and how our industry responds to these levers is going to play a huge part in where we really get to as an automotive fleet by 2030.

## Who really pays?

**There are two new key factors which are going to impact EV affordability in NZ in 2023 and beyond:**

## 1. The Clean Car Standard

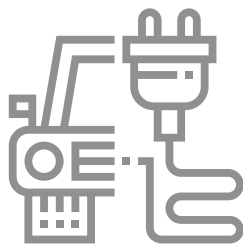
**- Effective January 2023**

The primary purpose of the clean car standard is to encourage OEMs and Importers to supply increasingly lower and zero emission vehicles.

It comes into effect in January 2023.

### What is it?

- Targets for reducing CO2 emissions - CO2 targets for vehicle importers apply from 2023 and will tighten significantly each year through to 2027.



- CO2 targets for 2028 and later years may be set later by regulation.
- Charges - imposed on vehicle importers who fail to achieve targets, and which rise over time.
- Banking, borrowing, and transferring CO2 - limited methods that a vehicle importer can avoid charges if they cannot reach their CO2 target
- Variations by vehicle type and weight - stricter targets apply for passenger cars than do for commercial vehicles (utes and vans). During 2022, regulations will be made to prescribe formulas for the weight adjustment of targets, specify the types of vehicles excluded from the policy, and other details related to CO2 accounts.
- Compliance regimes - importers can either be assessed on an annual or per-vehicle basis.
- Timing - from December 2022, importers of vehicles must have a CO2 account with Waka Kotahi in order to progress vehicles through entry certification. This ensures systems are in place to monitor importers against targets from January 2023.

[source: NZTA]

The Clean Car Standard comes with a compliance cost for importers and OEMs - the obvious good news is that NZ will continue to steadily reduce our CO2 environmental impact.

The bad news? Any increase in the costs to comply and to operate in NZ, may well have to be passed on to consumers.

That might not impact the current costs of an EV, but it will impact the cost of operating in NZ.

Either way, we can't see the affordability of globally sought-after EV models reducing in NZ any time soon.

## 2. Road user charges for EVs

**- the \$6 Billion dollar question?**

All of the petrol excise tax motorists pay is directed to the National Land Transport Fund (NLTF) for investment back into New Zealand's land transport system.

Revenue income to the NLTF comes from two main sources - fuel taxes and road user charges. The budgeted 2021-24 expenditure plan for the NLTF is some \$24.3 Billion.

Nearly half of this revenue is expected to come from:

### Road user charges (net)<sup>1</sup> - \$6 billion

End customers of freight carriers in the prices paid for goods and services. Light diesel vehicle owner payments.

### Fuel excise duty (net)<sup>1</sup> - \$6.7 billion

Excise collected at source (fuel shipments & refinery) and recharged in petrol, LPG and CNG prices.

[Source: NZTA]

Over time, as our ICE vehicle registration volumes lower substantially, our corresponding spend on petrol will lower. Which leaves our Transport Fund with an income shortfall headache for much needed road and transport infrastructure investment. There is also a \$2 Billion dollar Crown loan already included in that \$24 Billion - so that pocket has already been pilfered.

The government cannot realistically fund fuel tax discounts forever, although they may well extend them past the end of January 2023. So, whilst full EVs are currently exempt from road user charges, and also benefit from the Clean Car Discount, the roads still have to be funded and maintained. Something has to give.

### Conclusion:

**Our fleet mix in NZ (including imports) will evolve relatively quickly to 2030. As ICE registrations continue to slow, the increasing costs of transport infrastructure will, it seems, have to be worn by lower emission vehicles and EVs in some way.**

# Global EV News



## CHINA

About 1,600 of the latest models have been unveiled to enthusiasts, buyers and media at Chengdu Motor Show in September.

Mercedes-Benz physically showcased the EQE as its first China-produced electric model based on its cutting-edge modular electric vehicle architecture. It boasts a maximum range of 752 km on one charge.

Nissan's Chinese joint venture Dongfeng Nissan unveiled its electric Ariya SUV, a major step of its inroads into China's booming electric car market.

The Ariya has a maximum output of 178 kilowatts and a top torque of 300 Newton meters. It has a China light-duty vehicle test cycle range of 623 km on one charge.

Chinese brands wowed audiences with increasingly diverse models:

BYD - China's largest new energy vehicle maker is presenting new models, which include the Frigate 07 hybrid SUV, Seal electric sedan, built on its newest e3.0 platform; and the four-wheel-drive hybrid Tang DM-p SUV.

At Chinese start-up Li Auto, the newly launched L9 large SUV took centre stage.

BAIC's premium electric arm, Arcfox, had the national debut of the Petit Prince edition of its Alpha S sedan.

This is also the first time for Great Wall Motors' SAR brand to appear at the Chengdu auto show. It launched its first high-performance sedan, whose name translates as 'Mecha Dragon.'

Another Chinese start-up Leapmotor debuted its electric C01 sedan.

GAC Aion, an electric car subsidiary of GAC Group, launched its Aion V Plus SUV.

[Source: China Association of Automobile Manufacturers]



## USA

All 50 US states have been approved for EV charging stations covering 75,000 miles of highway, the US transportation department announced on Tuesday. The White House has approved plans that will give states access to \$1.5bn in federal funding to build the chargers.

The funding comes from the landmark infrastructure bill passed last year, which has initially set aside \$7.5bn for EV charging in total.

President Joe Biden declared:

**"The great American road trip is going to be fully electrified."**

Charging infrastructure remains a chief obstacle to US EV adoption due to the sheer volumes, size and scale of the US.

Elon Musk announced that Tesla is starting Tesla Semi production and that Pepsi is going to get the first electric trucks starting from December 1.



## EUROPE

The EU car market is expected to shrink by over a quarter this year compared to pre-pandemic 2019 levels, and the European Automobile Manufacturers' Association (ACEA) is calling for a policy framework that enables the market to both recover and make the shift to zero-emissions.

"These include greater resilience in Europe's supply chains, an EU Critical Raw Materials Act that ensures strategic access to the raw materials needed for e-mobility, and an accelerated roll-out of charging infrastructure."

"The last years have been marked by major events like Brexit, the coronavirus pandemic, semiconductor supply bottlenecks and the war in Ukraine, with its impact on prices and availability of energy," Zipse continued. "All of these things underline how quickly, how profoundly and how unpredictably our world is changing. This applies not least in the geopolitical context - where there are direct consequences for our globally interconnected industry and its close-knit value chains."

[Source: ACEA President and CEO of BMW, Oliver Zipse]



# Charging Ahead

**EV charging infrastructure is vital to adoption and efficiency.**

**So, how do we 'charge ahead' with EV adoption in NZ?**

**This quarter we speak to Martin Miles, COO of ChargeNet.**

***EV Roaming or 'eRoaming' is key, what is your vision for delivering a true "charge anywhere" experience?***

As part of our goal to be the market leader in EV-charging infrastructure in Aotearoa New Zealand, ChargeNet believes in continually developing innovations that benefit our customers and consumers in general, and which make life easier for them.

Interoperability between providers of public charging services, which would see our customers able to plug in to a charger regardless of who operates it, will make operating an EV much simpler, and has positive competitive outcomes.

We are actively working this into our strategic planning for the future, and we are confident innovations such as this will be introduced to the market as it continues to mature.

***What industry standards and protocols are in place to support the required network growth and speed?***

In the last few years, the Government has made significant inroads in encouraging Kiwis to purchase electric vehicles, and we are now seeing more and more people making the transition.

There are 29 Electricity Distribution Businesses (EDBs) in New Zealand, as well as 78 local, regional and unitary councils, and each of these has its own strategies and objectives.

That's a lot of voices, and it highlights the need for a coordinated, collaborative approach between regulators, electricity providers, and companies like ChargeNet, who service end-users.

The Government is in the process of developing its national EV charging infrastructure plan, and this plan will hopefully provide guidance to how New Zealand's EV charging infrastructure can best expand in both the short-term and the long-term.

Connecting public chargers to the grid is an expensive exercise, and the process to install them is a lengthy one, so it's important that measures are put in place to expedite the process.

ChargeNet is also Aotearoa's leading distributor of rapid and hyper-rapid EV hardware for commercial organisations. From this perspective, we believe it is critical that industry has certainty around our national vision for EV charging, to ensure the growth of the network keeps pace with customer demand, and so that Aotearoa New Zealand can achieve its target of net zero carbon by 2050.

## Charging Ahead continued...

### ***What plans are there for upgrading the grid and building renewable energy sources to support the uptake of charging stations?***

We share Aotearoa's ambition to be one of the world's leading markets for zero emissions vehicles. The light vehicle fleet makes up around two thirds of our total transport emissions.

In order to successfully transition to a low-emissions economy, we need an affordable, renewable, and efficient energy system supporting our light vehicle fleet.

At a government level, plans for grid upgrades and growing renewable energy sources will become clearer as the Government develops its national EV charging infrastructure plan.

ChargeNet also partners with Ecotricity, Aotearoa New Zealand's only provider of 100% renewable and net carbonzero certified electricity.

Ecotricity is Toitū Envirocare net carbonzero certified electricity, which is sourced from wind, hydro and solar generation.

As we look into the future, there may be opportunities to partner directly with solar farms or other renewable generators.

ChargeNet is committed to taking a collaborative approach with electricity generators where demand peaks.

***EV adoption offers fleets a rapid benefit at scale. How can we better support the adoption rates amongst our fleets in NZ?***



Thanks to government incentives, Aotearoa is already in a position where demand for electric vehicles is outstripping supply. So while demand from consumers and businesses is already present, the challenge is to ensure we have enough EVs coming into the country to meet that demand.

From a commercial lease perspective EV fleets are cheaper to run than ICE vehicles and have fewer maintenance requirements which means the higher initial cost can be recaptured over time. The best way to incentivise procurement in commercial EV fleets is to ensure they stack up as a logical economic decision, and that they will meet a businesses' needs. While EVs are not quite at price parity with ICE vehicles, although this could happen as early as 2024, incentives such as the Clean Car Discount policy are already helping to encourage businesses to make the switch.

Over the next few years we will also see a number of new EVs coming online, things

such as EV-utes, and having these options will certainly see an uptick in market penetration.

### ***What safety risks are involved with EV charging alongside highly flammable traditional fuels?***

At present, ChargeNet has two EV charging sites on a petrol station forecourt within our network. We expect to see an increase in partnerships with traditional fuel retailers as more EVs enter the market.

There are a number of regulatory requirements that come with installing EV chargers, regardless of where they're located, and all our charging sites meet these stringent requirements.

### ***What safety risks are involved with home charging?***

ChargeNet does not provide home charging infrastructure so we are not experts in this space. We do however supply a range of sophisticated commercial EV charging





solutions, and have an integrated portfolio of hardware, software, and services for commercial customers.

In our experience, the biggest safety risks around the installation of charging infrastructure are ensuring that all regulations and safety controls are met, and this includes considerations around location and electrical requirements. ChargeNet suggests using an electrician who is experienced or knowledgeable in EV charging installation.

***Current charging stations need 'entertainment', is that the more immediate future for our fuel stations?***

When ChargeNet is investigating and selecting sites to add to our growing network, a top priority for us is finding a location that has access to amenities that complement the charging dwell time of our charger and which match our customers' day-to-day habits.

Our strategy is to install chargers where people want to be. That's why traditionally many of our chargers have been installed in places such as supermarket car parks. Integrating convenient charging locations into everyday life is also one of the keys to increasing EV-uptake. As we see advances in EV-charging technology, we will likely see more and more chargers conveniently located in car parks.

***How do you plan to replicate the 'petrol pump experience' whereby EV charging matches traditional petrol and diesel speeds?***

This will come as improved technology becomes available. ChargeNet's 300kW EV chargers deliver world-class charging speeds, and we will continue to keep pace and invest as new technology becomes available. ChargeNet isn't beholden to a particular manufacturer, and we are always on the lookout for better, more advanced equipment.

Perceptions will change around how people charge their vehicles. The benefit of EV charging infrastructure is that it isn't restricted to service station forecourts, so there will continue to be a mix of charging types. However, there will always be a need for rapid and hyper-rapid charging infrastructure, particularly on highways, motorways, and expressways.

ChargeNet is focused on increasing the density of chargers across our network to make it easier for everyone to grab a charge on the road when they need one. Our current investment plans are focused on increasing the density of chargers across our network.

We anticipate the next significant development in Aotearoa will be the advent of "Plug & Charge" technology, where drivers can simply plug their vehicle into an

integrated network and charge their vehicle without having to use a credit card or a mobile app.

***Where do you see the most relevant technological advances in reducing charge time and enhancing EV range capabilities coming from?***

Consumers are demanding greater range and faster charging, so the key technological advances in this space are likely to be enhanced batteries, and lower manufacturing costs for these technologies making them more accessible to consumers.

Computer chips and operating systems have continued to advance, and battery technology has been the weak link. Once engine and battery manufacturers move beyond traditional lithium-ion batteries, we will have overcome a significant hurdle for EVs in terms of range and charge capacity.

***As EV driving ranges head over 500Kms, and charging stations evolve, how do you see the split of home charging versus network charging evolving?***

Once again, there will always be a need for rapid and hyper-rapid charging infrastructure, particularly on highways, motorways, and expressways. Even as vehicle range grows, EV drivers will still need to charge when travelling over long distances.

## Charging Ahead continued...

About 90% of travel by car in Aotearoa is less than 90km per trip. While most charging will occur at home, it's likely that Aotearoa will also continue to have a fleet of short-range EVs that will rely on a publicly-available charging network, and of course we have seen trends around "snacking" – were people charge by small amounts to keep them going while out and about.

ChargeNet will continue to be a key part of the solution for public EV charging.

**Global governments (including NZ) have mandated changes to ensure EV adoption. The world still faces long term supply issues and a fuel crisis. Where are we on our EV adoption journey, do you think today, versus where we will be in 2025 and 2030?**

We are at a point where demand for EVs is now outstripping supply, and that demand is only growing. Compared with a year ago, there has been a 69% increase in EV purchases in September 2022. If you go back two years and compare with September 2020, it's a 144% increase.

BloombergNEF recently indicated that Aotearoa New Zealand has reached a tipping point in terms of EV adoption, and we have

now surpassed the 5% threshold where demand has moved beyond early adopters and has reached the mainstream.

If the Government wants to build on the existing demand, it needs to maintain investment in things such as the Clean Car Discount policy, and work to establish a market for second-hand EV imports as well as new vehicles.

One critical piece the Government needs to develop urgently is the development of a national EV charging infrastructure plan, because this will really establish a pathway that informs ChargeNet's investment schedule and business growth and over the next five to 10 years.

