Light vehicle consumer preference and Electric vehicle availability

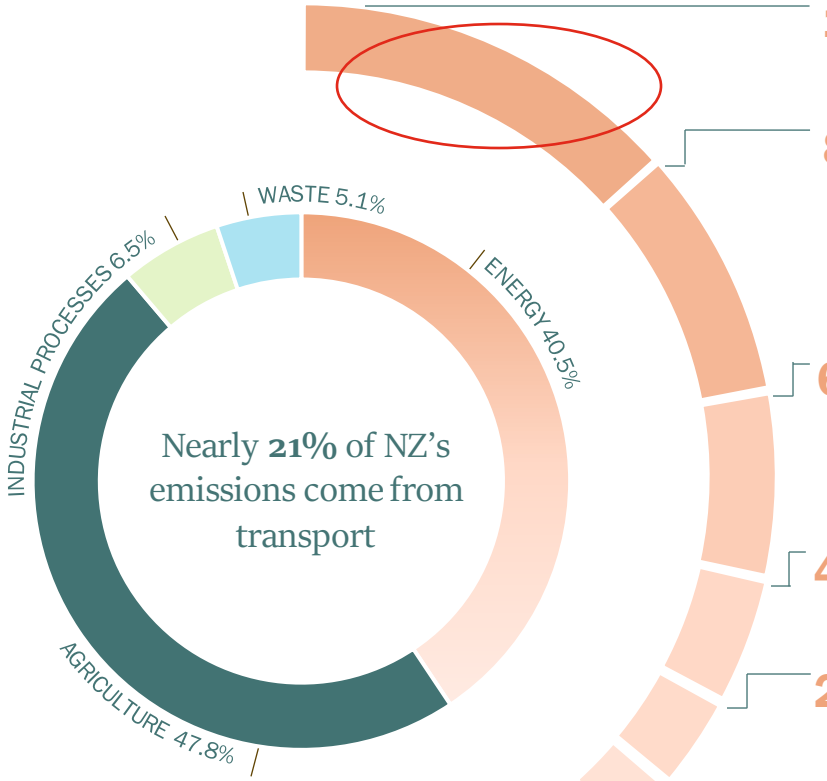
Presented by: Basil Issa

[3/12/2020]

TE TARI TIAKI PŪNGAO
ENERGY EFFICIENCY & CONSERVATION AUTHORITY

EECA

New Zealand's energy emissions



14.5% LIGHT VEHICLES

8.1% MANUFACTURING INDUSTRIES
e.g. dairy, meat, textiles, products
& CONSTRUCTION
e.g. plumbing, electrical services

6.5% OTHER TRANSPORT
e.g. freight, buses, rail, domestic aviation

4.2% ELECTRICITY GENERATION
e.g. gas, coal, geothermal sources for electricity production

2.7% AGRICULTURE, FORESTRY, FISHING
e.g. dairy/stock farming, horticulture, aquaculture, fishing
& COMMERCIAL
e.g. retail, hospitality, education, healthcare

2.3% FUGITIVE EMISSIONS
e.g. methane release from coal seams in mining, flaring of waste gases in oil and gas production

1.3% OTHER ENERGY INDUSTRIES
e.g. petroleum refining, manufacture of coal and wood

0.9% HOUSEHOLDS

Source:
Greenhouse Gas Inventory 1990-2017, MfE (2019); Light vehicles and Other transport estimates are based on data from the MBIE 2017 energy balances and MBIE Energy in New Zealand (2018)

EECA

Consumer market research

- EECA's EV Information Campaign (EVIC) is designed to 'Overcome information barriers in order to increase awareness and understanding of, and favourability towards EVs'.
- In order to understand attitudes and motivations to move to EVs, since 2016 EECA has tracked four main KPIs with the public via a nationally representative survey (EECA Consumer Monitor); Favourability, Familiarity, Confidence to meet needs, and Consideration.
- Favourability, Confidence to meet needs and Consideration have all increased significantly since 2016, although Familiarity has seen little increase. This suggests that although favourable, New Zealanders know a little about EVs but not a lot.
- EECA's EV Information Campaign has designed the key messages around the 'barriers' and 'considerations' as outlined by the research.

Favourability*

Jul-Sep 2016

42%

Apr-Jun 2020

55%

EECA Consumer Monitor Apr-Jun 2020
EV4 *How favourable or unfavourable is your overall opinion or impression of Electric Vehicles?*
Total Sample – 3month roll (n=798)

****Quarterly figures shown. 12month roll figure for Apr-Jun 2020 is 53%***

Familiarity*

Jul-Sep 2016

11%

Apr-Jun 2020

13%

EECA Consumer Monitor Apr-Jun 2020
EV3 *How would you rate your familiarity with Electric Vehicles*
Total Sample – 3month roll (n=824)

****Quarterly figures shown. 12month roll figure for Apr-Jun 2020 is 13%***

Confidence to meet needs*

Jul-Sep 2016

39%

Apr-Jun 2020

53%

EECA Consumer Monitor Apr-Jun 2020
EV5 *To what extent are you confident that Electric Vehicles can meet your needs?*
Total Sample – 3month roll (n=824)

****Quarterly figures shown. 12month roll figure for Apr-Jun 2020 is 47%***

Consideration (BEV & PHEV)*

Jul-Sep 2016

22%

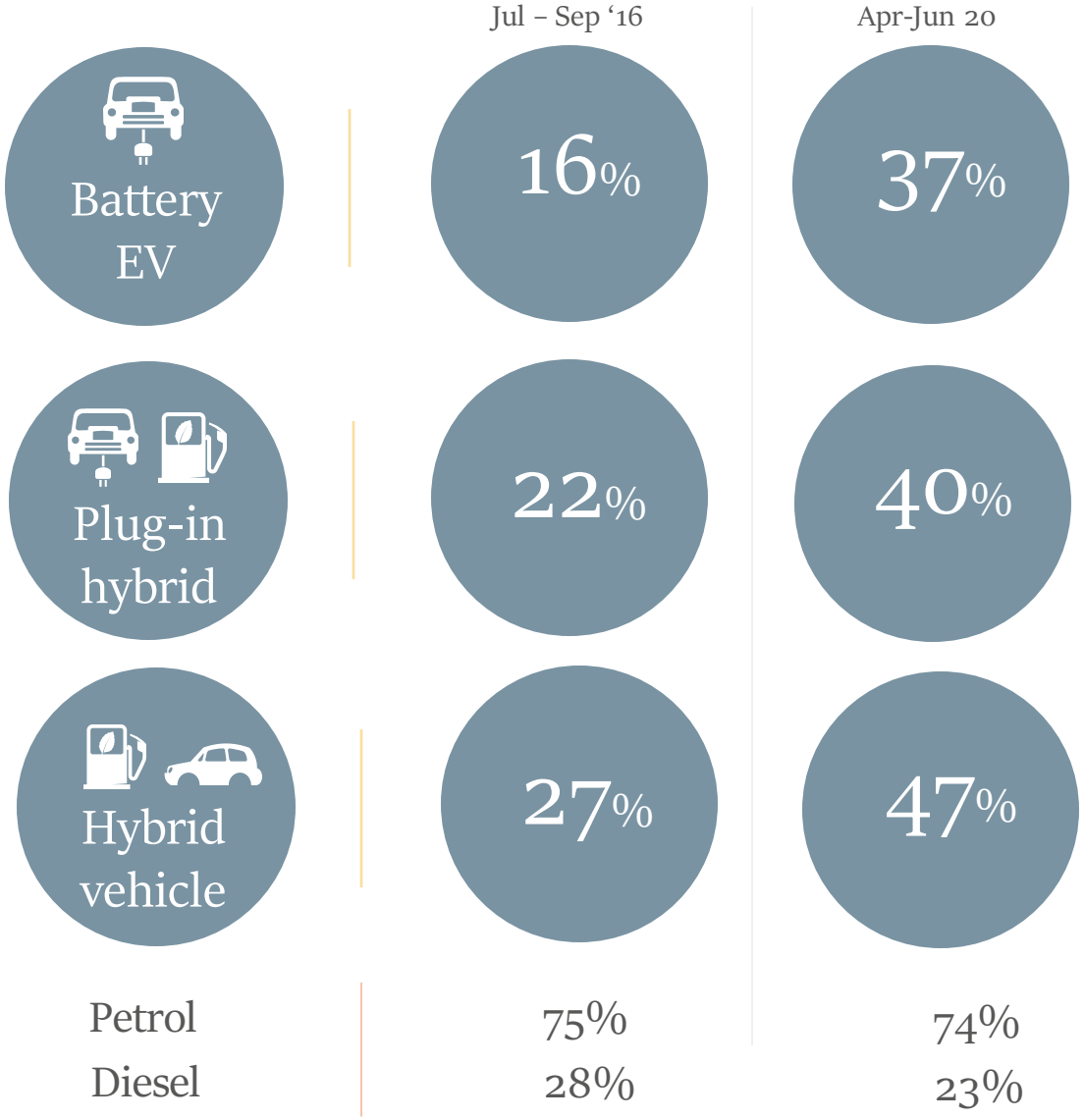
Apr-Jun 2020

47%

EECA Consumer Monitor Apr-Jun 2020
EV5 *Thinking about your next vehicle purchase, how likely are you to consider the following vehicles?*
Total Sample – 3month roll (n=786)

****Quarterly figures shown. 12month roll figure for Apr-Jun 2020 is 37%***

Consideration

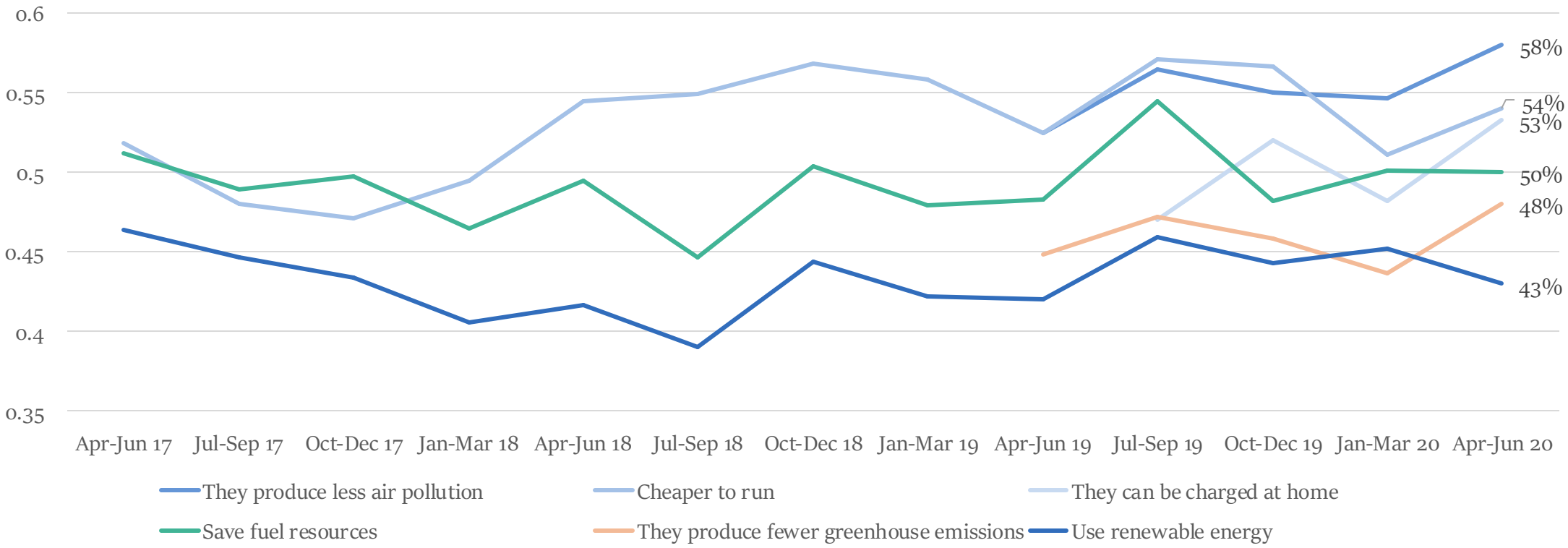


EECA Consumer Monitor Apr-Jun 2020

EV5 *Thinking about your next vehicle purchase, how likely are you to consider the following vehicles? Total Sample – 786* ****Quarterly figures shown.***

Cost saving and reduced emissions are most attractive characteristics of EVs

Perceived Benefits of EVs

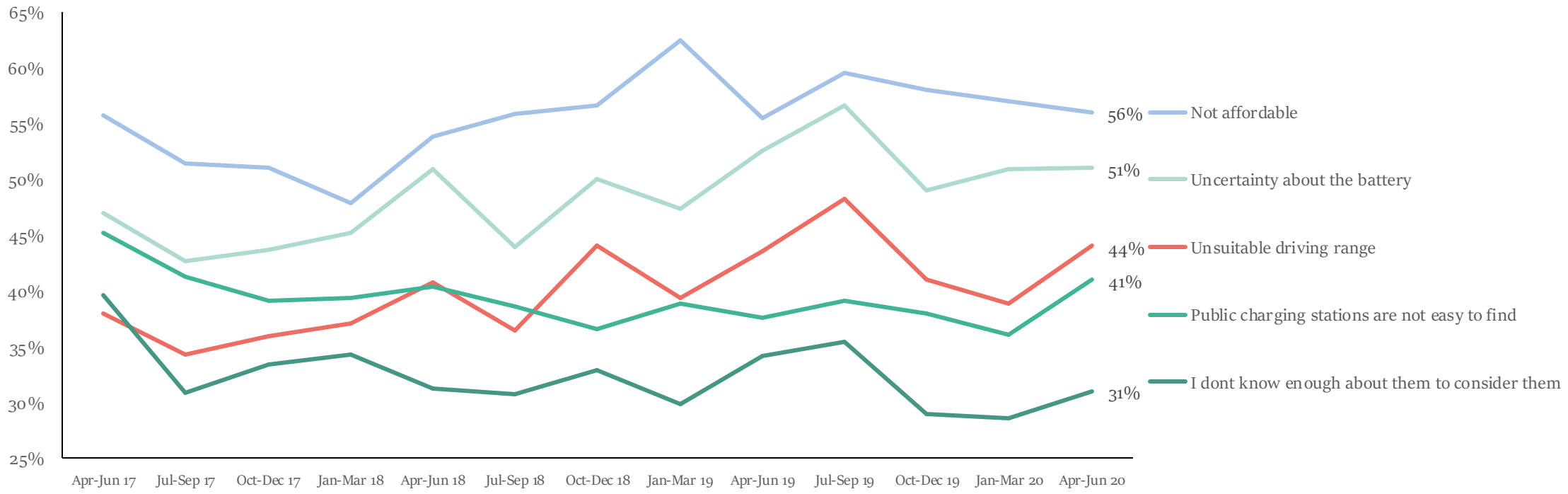


EECA Consumer Monitor Apr-Jun 2020

Q178. *What is it about electric vehicles that would make you likely to consider them the next time you buy a vehicle?* ***Base:*** *Current / intended car owners – 3MR (n=786).*

Upfront cost & battery concerns remain significant barriers

Perceived Barriers of EVs



EECA Consumer Monitor Apr-Jun 2020

Q179. *What is it about electric vehicles that would make you unlikely to consider them the next time you buy a vehicle?* ***Base:*** *Current / intended car owners – 3MR (n=786).*

What's happening globally with EVs

Current global outlook

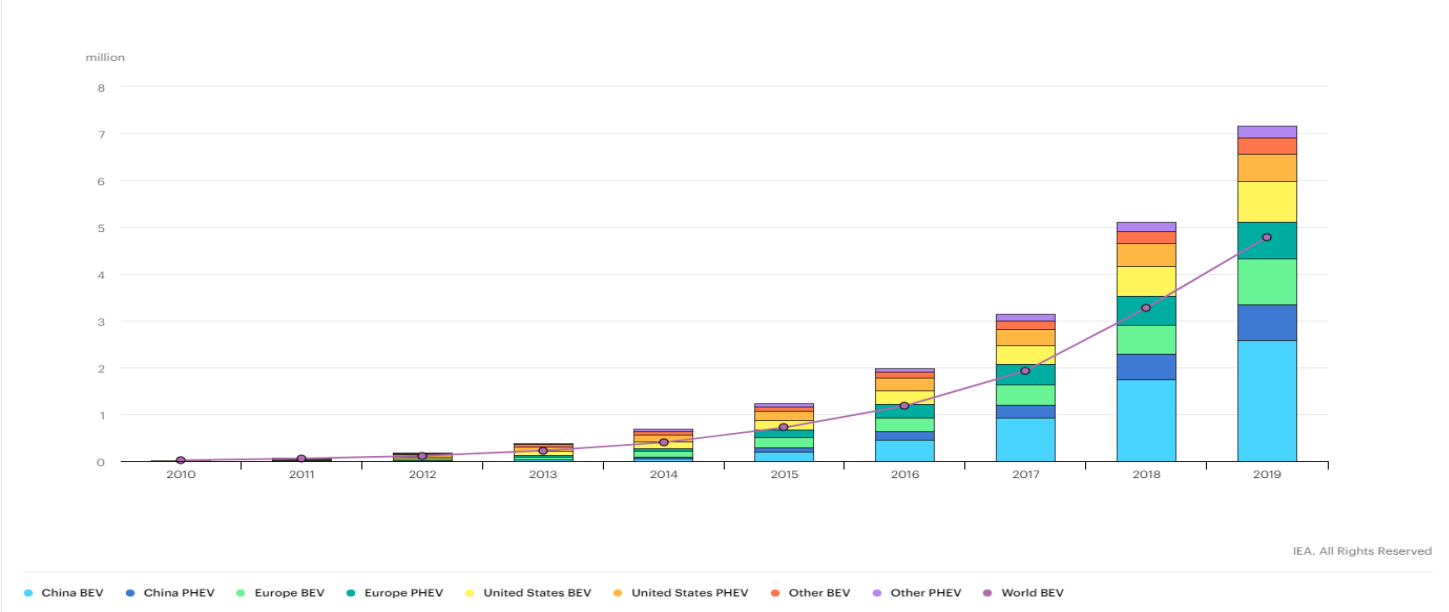
International Energy Agency

- The IEA annually published EV Outlook report shows a steady increase in the uptake of EVs globally
- The report notes the majority of EVs are destined for markets with heavily regulated emission standards and high EV incentives (mainly EV producing countries)

Supply

- Markets closest to where EVs and components are produced will have the biggest advantage for supply
- The right-hand drive requirement in New Zealand will also limit access to markets where new and used EVs are concentrated

IEA Global Electric car stock 2010-2019*

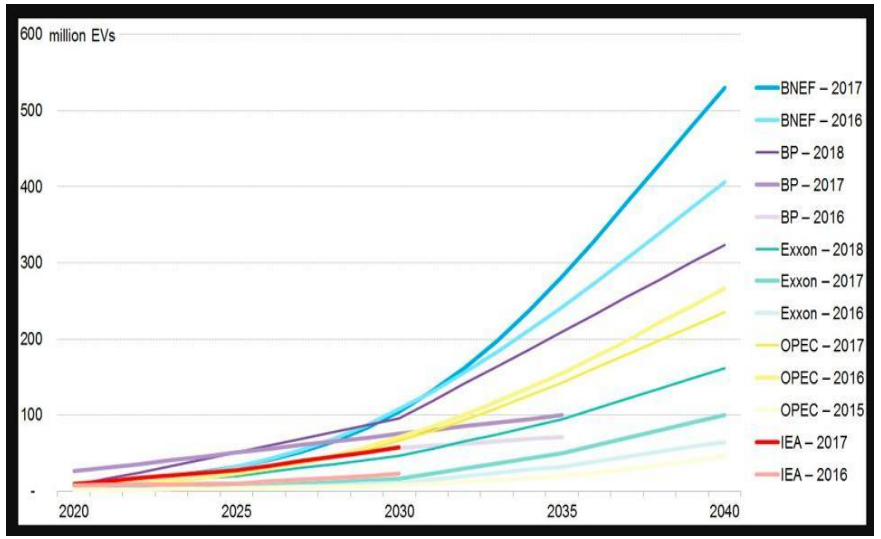


*https://www.iea.org/data-and-statistics/charts/global-electric-car-stock-2010-2019

Current global outlook

How EV forecasts have changed over time

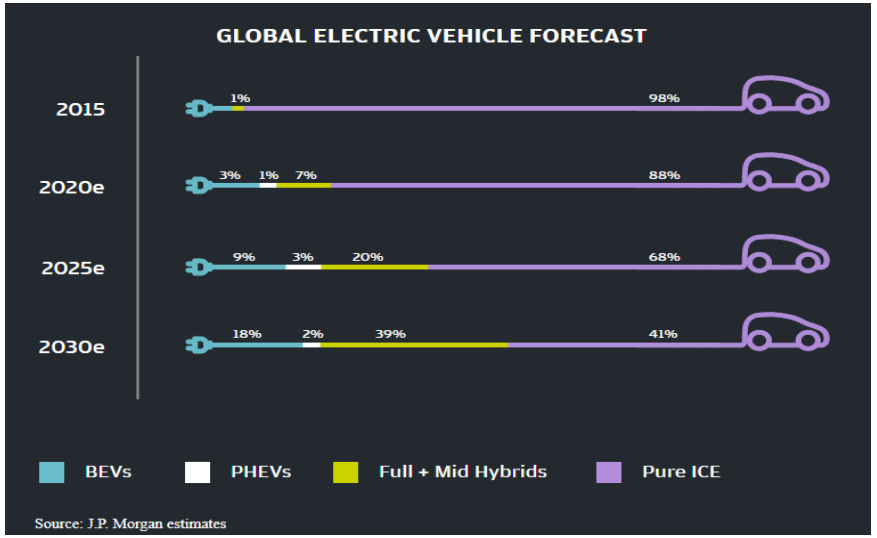
- To date EV growth forecasts have been unreliable
- Most forecasts predict a limited growth rate prior to 2025
- Many forecasts are based on manufacturer's visions rather than actual production planning



Electric Vehicle Fleet Size Forecasts BLOOMBERG NEW ENERGY FINANCE (BNEF)*

Global passenger vehicle production forecast

- Globally, by 2030 over half of new cars are expected to be Hybrids, PHEVs or BEVs
- To achieve parity with ICE cars and increase market share, BEVs will require new battery technology
- Chinese BEV brands are unlikely to gain global market share this decade, but may become prominent beyond



Global Vehicle Production Forecast J.P Morgan Estimates Feb 2020**

*https://www.forbes.com/sites/arielcohen/2020/03/25/manufacturers-are-struggling-to-supply-electric-vehicles-with-batteries/#d6ef9221ff30
**https://www.jpmorgan.com/global/research/electric-vehicles

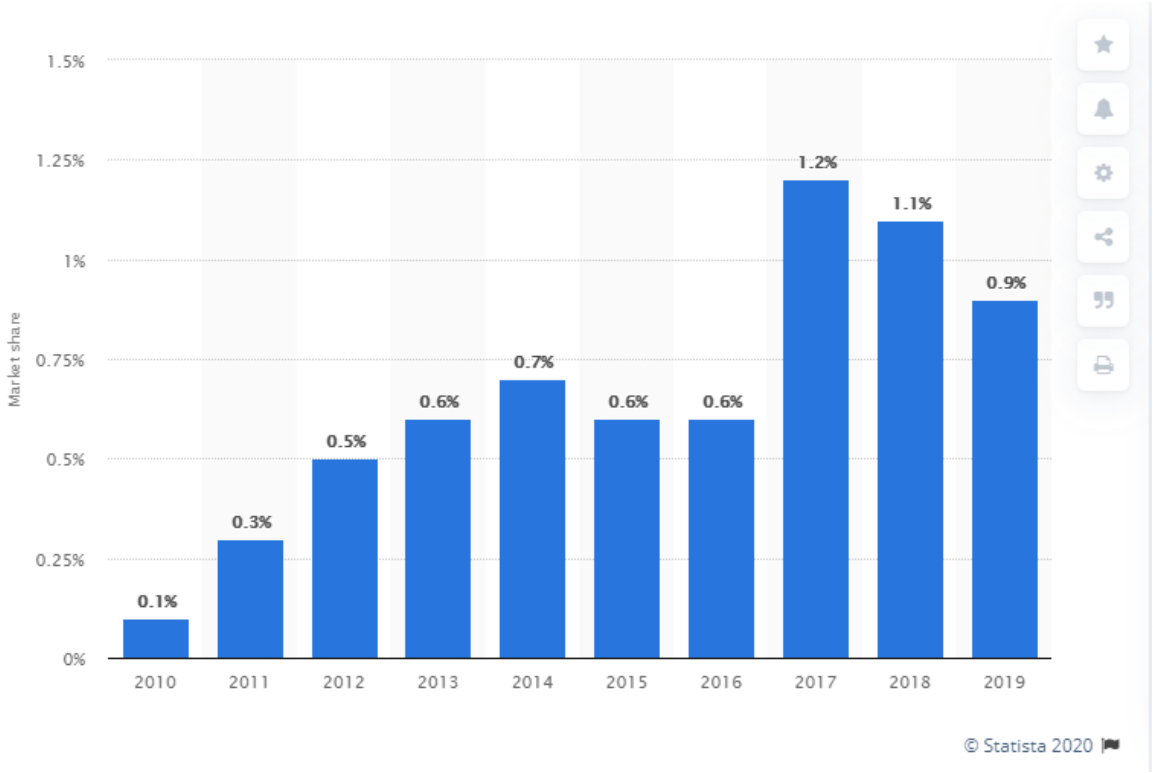
What is happening in Japan

Japan's domestic market

- BEVs & PHEVs are less than 1% of Japans total annual registrations
- Growth trend has reversed since 2017
- This will limit access to good quality used EVs that are available for import to NZ

Impact on New Zealand domestic market

- New Zealand imports 80% of its new and used vehicles from Japan
- NZ market needs to diversify its supply sources to increase EV uptake.



* *Source: Statista:* Market share of electric vehicles in Japan from 2010 to 2019

The New Zealand Context

Imported EV models and prices

Increased models and range

- The number of EV models increased from 5 to 35 in the past 5 years
- Travel range increased from 120-260kms for an average EV

Affordability

- The price for a new EV starts from $55k and as low as $10k ‘sweet-spot’ for some used imports

Ownership

- Consumer willingness to purchase an EV has more than doubled in the past 5 years.
- Up-front purchase price remains a major barrier

**Data collected from MIA and Drive Electric.*

Current New Zealand light vehicle fleet*

What's in the carpark?

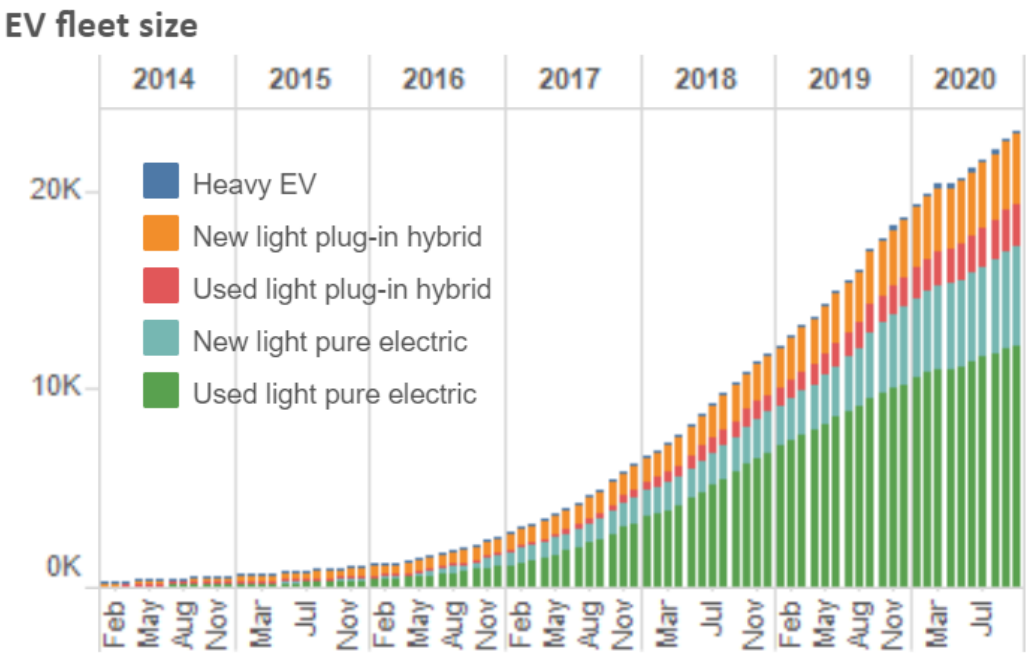
- 4 million light vehicles in the NZ fleet
- 0.5% of these are BEVs or PHEVs
- 1.5% are Hybrids

What's entering and what's leaving the fleet?

- Approximately 50% of these were used imports
- In the last three years an average of 150,000 vehicles were added annually
- The average age of vehicles exiting the fleet is 14 years

What's the trend for EVs?

- EV growth trend has reversed in 2020
- Mainly due to drop in business purchases as a result of COVID-19
- Sales are likely to pick-up in 2021



** As at 30 Nov 2020 – from MoT and NZTA published datasets*

Thank you