Electric vehicles in New Zealand: today and tomorrow

Elizabeth Yeaman, Energy Efficiency and Conservation Authority
New Zealand Wind Energy Association Conference, 2 May 2018

New Zealand Government

Electric Vehicles Drive the Future

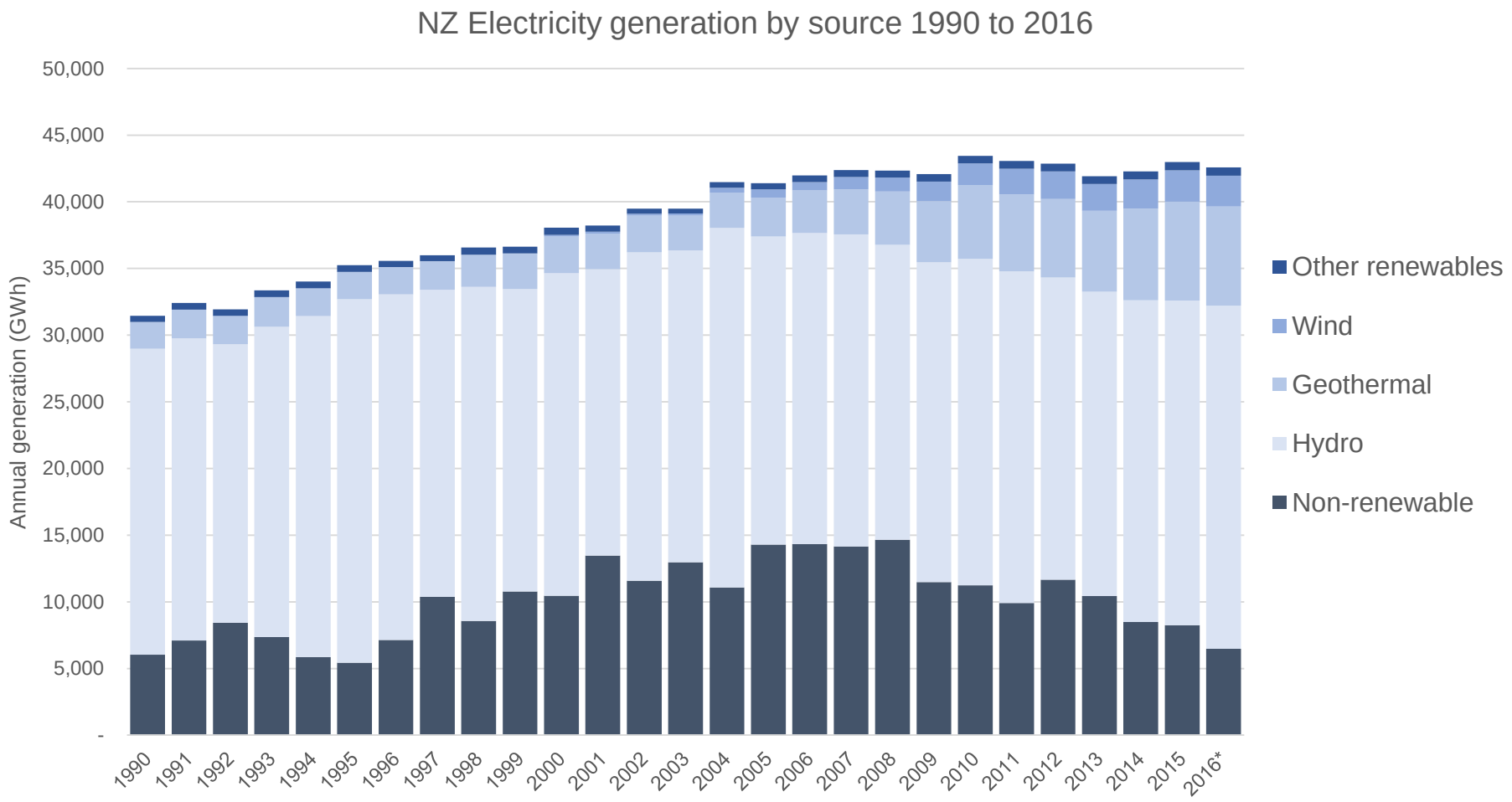
www.electricvehicles.govt.nz

Global EV momentum gathering pace

It took 20 years to sell the first million EVs globally, 18 months to sell the second million and 8 months to sell the third million

Countries to ban the sale of ICE vehicles: 2025 – Norway; 2030 – Ireland, Germany, Netherlands; 2040 – France, UK, Israel, Taiwan

85% of NZ electricity generation is now renewable



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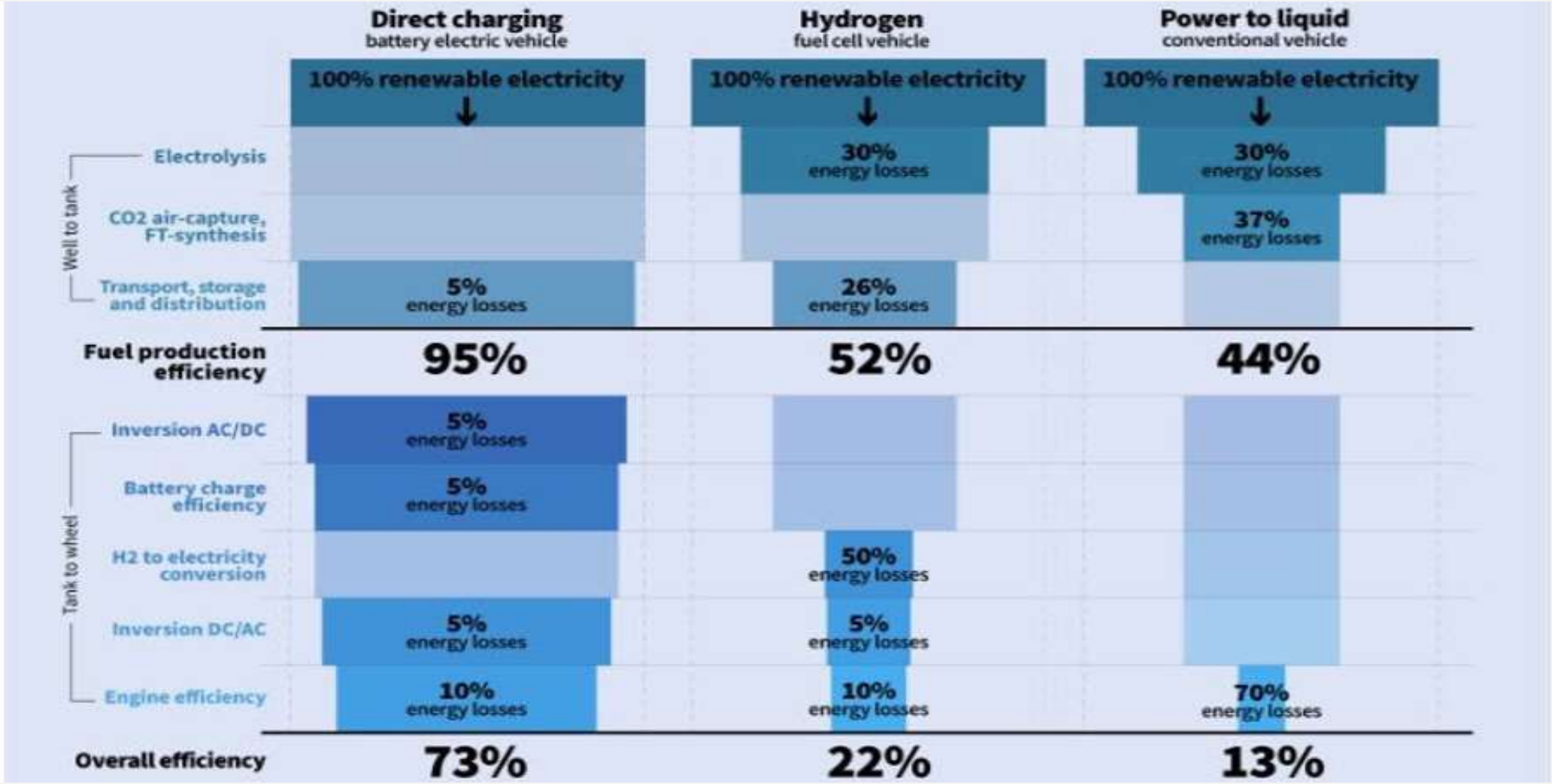
Renewable electricity to transport energy



Source: Roadmap to climate friendly land freight and buses in Europe, Transport and Environment, June 2017
https://www.transportenvironment.org/sites/te/files/publications/Full_%20Roadmap%20freight%20buses%20Europe_2050_FINAL%20VERSION_corrected%20%282%29.pdf

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New Zealand's EV advantage

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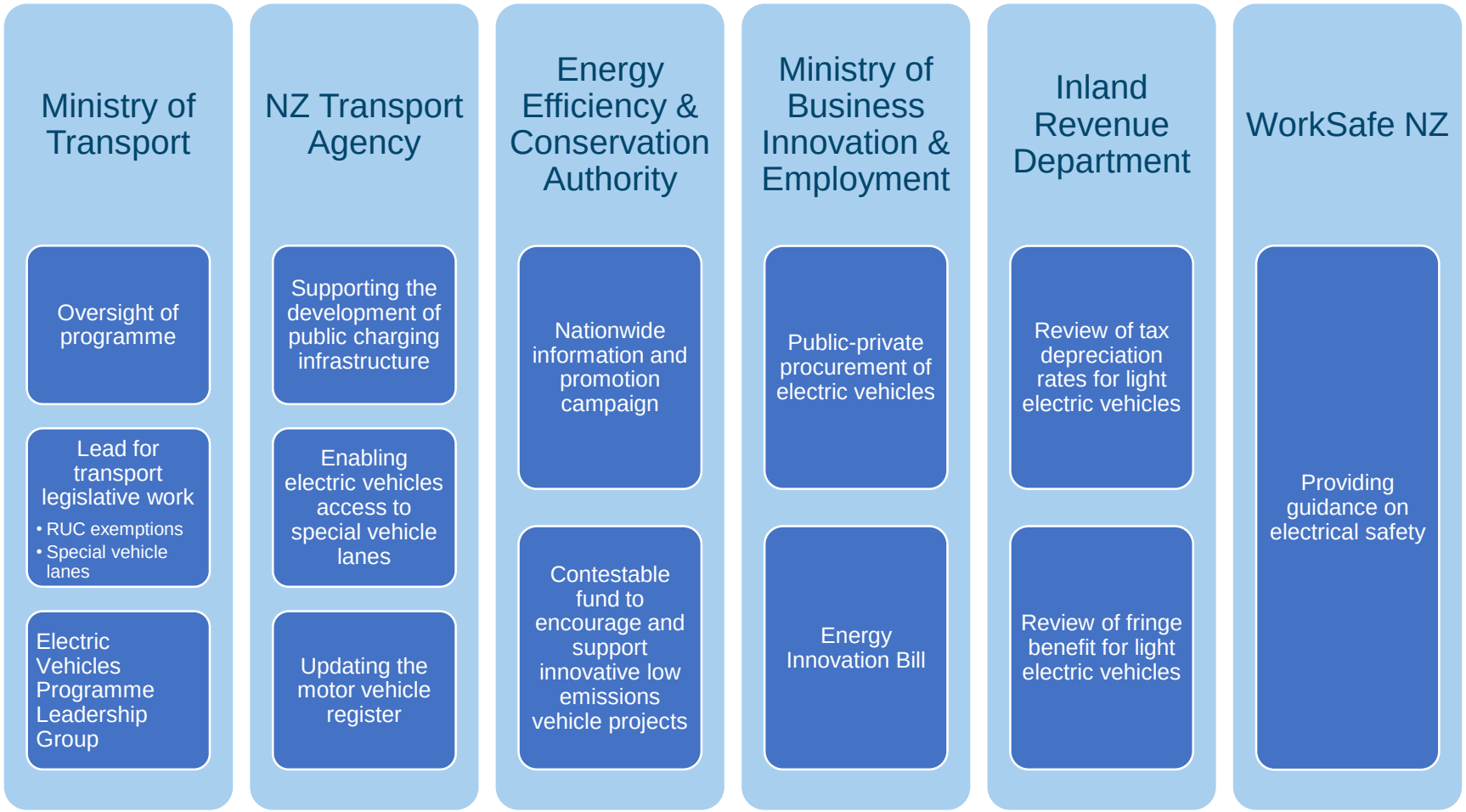
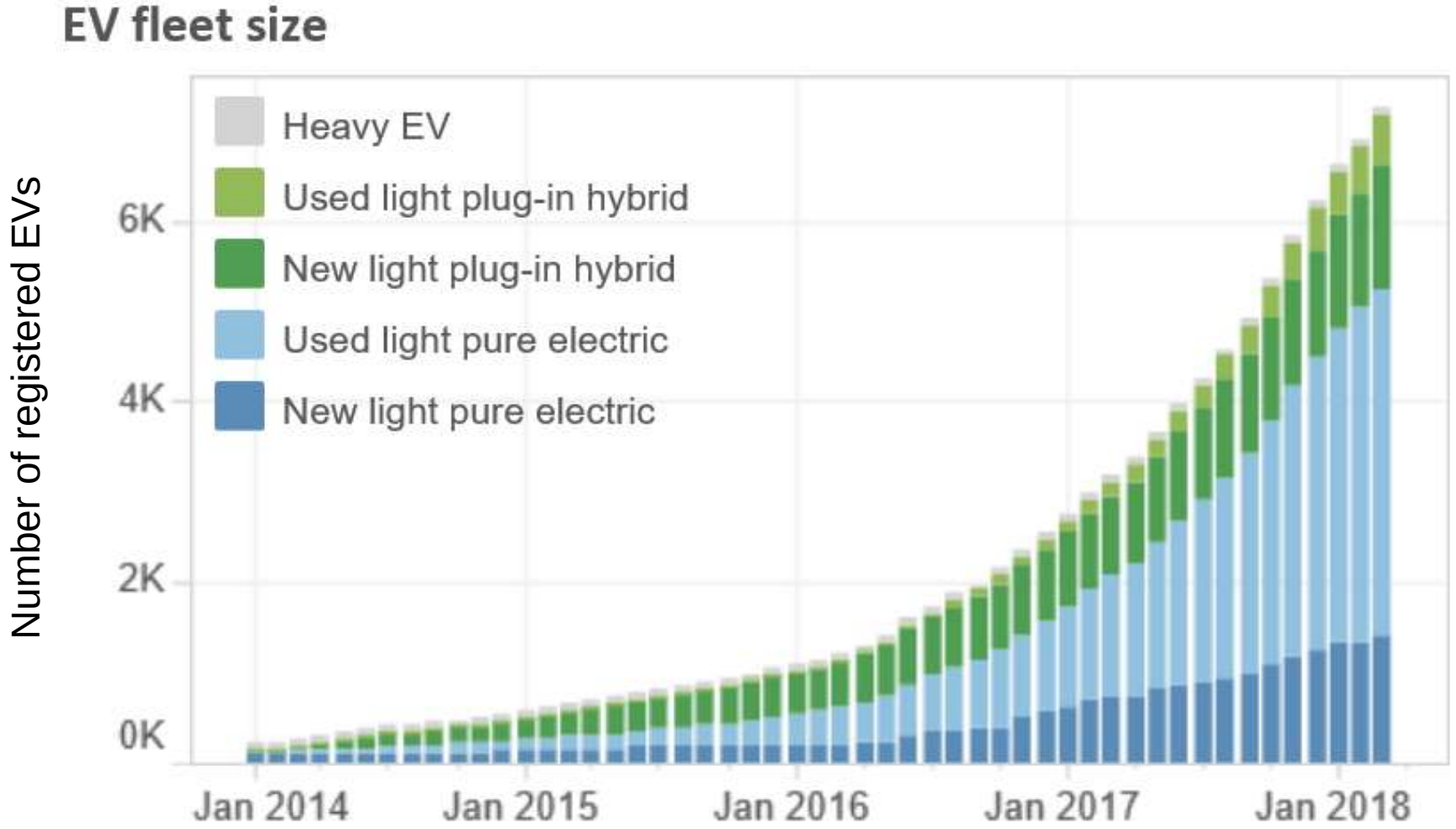
The Government's EV Programme



EV uptake is more than doubling every year in NZ



Source: https://www.transport.govt.nz/resources/vehicle-fleet-statistics/monthly-electric-and-hybrid-light-vehicle-registrations/

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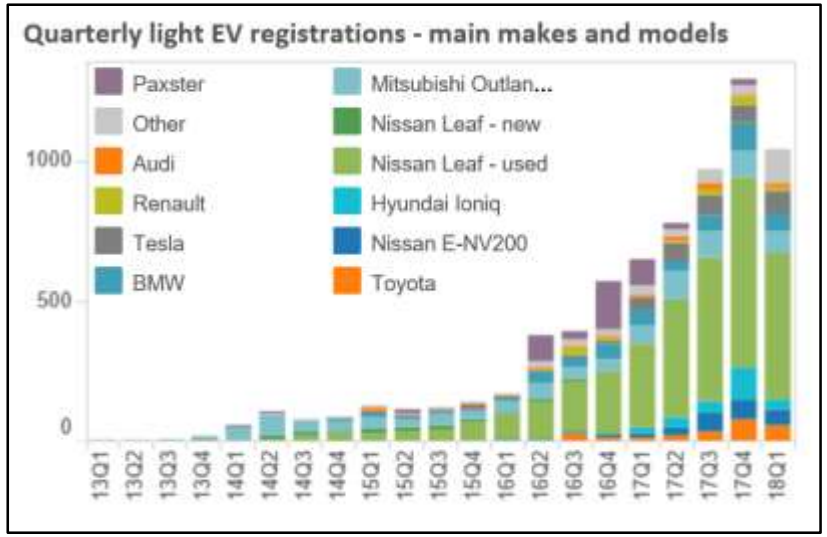
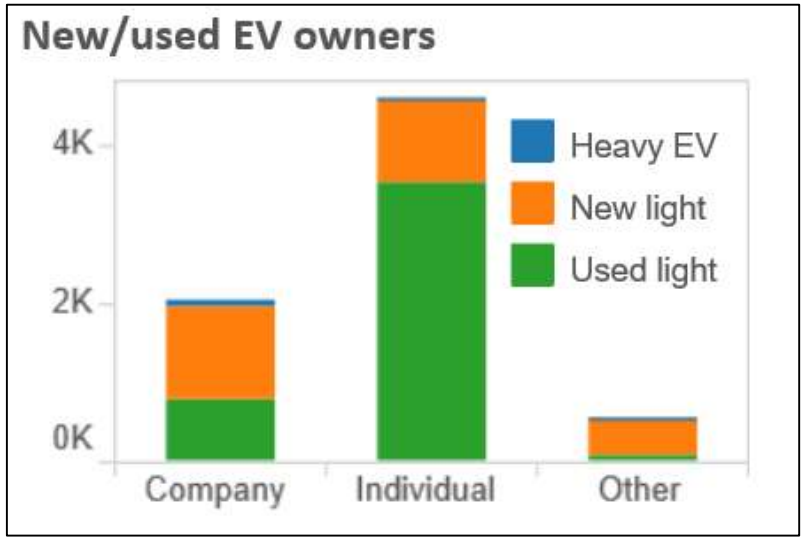
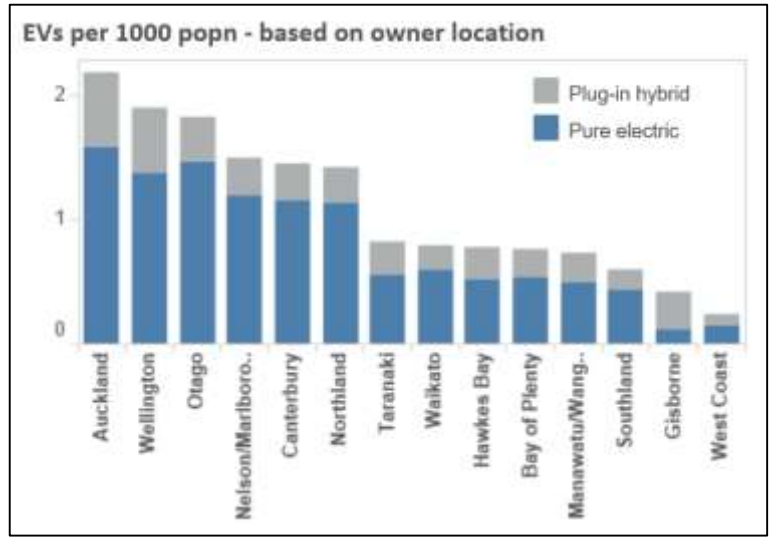
Who is buying what and where?







Aucklanders buying 2nd hand import Nissan Leafs as private vehicles

2013 onwards (Gen2) Nissan Leafs come ready for Vehicle-to-Grid

Source: https://www.transport.govt.nz/resources/vehicle-fleet-statistics/monthly-electric-and-hybrid-light-vehicle-registrations/

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EV information campaign www.electricvehicles.govt.nz

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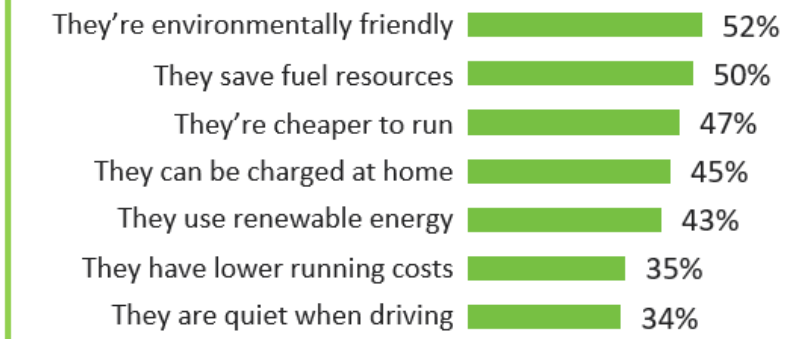
Kiwis now as likely to consider an EV as a diesel vehicle

NETT likely to consider

	Oct-Dec '16 (n=712)	Jan-Mar '17 (n=716)	Apr-Jun '17 (n=718)	Jul-Sep '17 (n=717)	Oct-Dec '17 (n=707)
Battery EV	19%	21%	19%	**26%**	26%
Plug-in hybrid	25%	24%	27%	29%	27%
Hybrid vehicle	29%	30%	28%	33%	32%
Petrol vehicle	**74%**	**74%**	**75%**	**71%**	**73%**
Diesel vehicle	**25%**	**24%**	**25%**	**22%**	**26%**

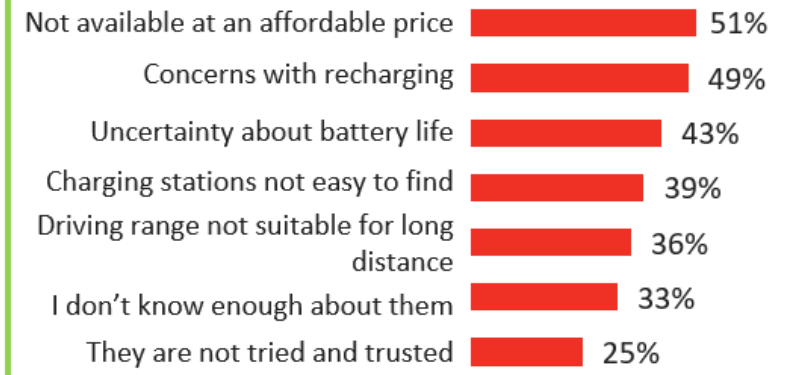
Why would consider EVs

(n=707)



Why would not consider EVs

(n=707)



Note: *Top-7 reasons for considering and not considering shown in charts.*

EV6 For each of the following statements, please select the answer that best describes how you feel about Electric Vehicles.

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Plug in at home or out and about

It's easiest and cheapest to charge at home overnight – 92% of EV owners in NZ prefer to charge at home*

Sometimes you may want to top up when you are out, or on a longer trip.
There's an ever increasing number of public charging stations around the country – to find one download an app

* http://flipthefleet.org/2017/media-release-electric-vehicle-owners-prefer-charging-home-filling-petrol-station/

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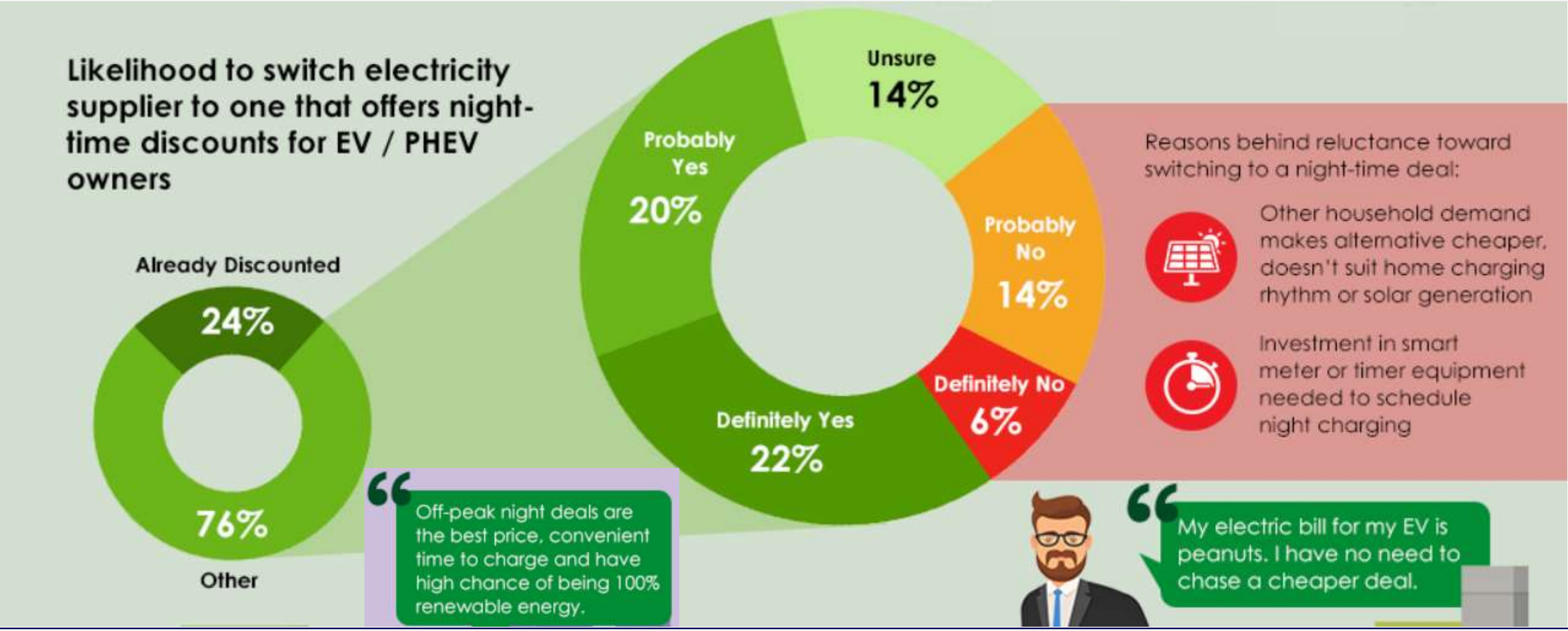
Will NZ EV owners charge off-peak?



http://flipthefleet.org/2017/media-release-ev-owners-targeting-night-time-charging-deals/

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By June, 80% of state highway network will meet NZTA's guideline of a fast charger every 75km

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www.electricvehicles.govt.nz

Low Emission Vehicles Contestable Fund

Funding of up to $6 million per year to co-fund innovative projects

Rounds 1, 2, 3 and 4 significantly oversubscribed

Round 5 expected to open Q3 2018

https://www.eeca.govt.nz/funding-and-support/electric-vehicles-programme/

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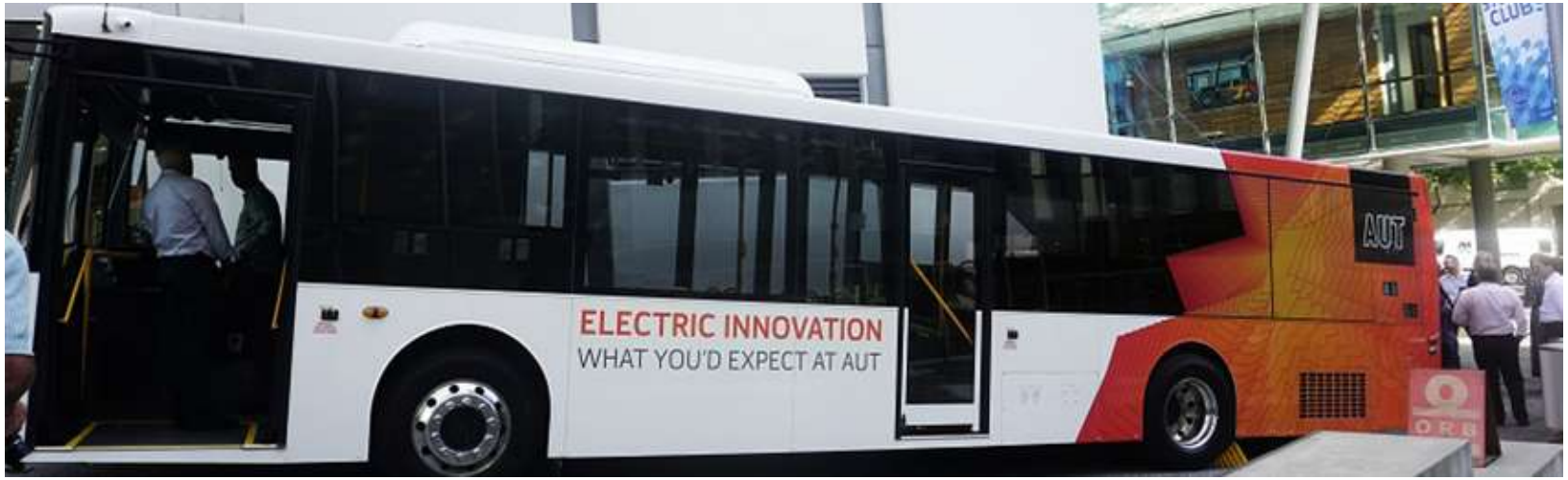
Low Emission Vehicles Contestable Fund



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Road User Charges

Light vehicles: Light EVs (eg cars and vans) are exempt from RUC until 2021

Heavy vehicles: From 1 September 2017 heavy EVs will be exempt from road user charges until they make up 2% of the heavy vehicle fleet.

Examples of what this is worth:

Vehicle	Definition	RUC rate (GST incl)	Example annual distance	Example RUC exemption saving
Urban delivery truck	Under 6 tonnes, dual rear wheels	$66 / 1,000 km	30,000 km	$1,980 / year
Regional freight truck	12 – 18 tonnes, 3 axle	$292 / 1,000 km	75,000 km	$21,900 / year

Opportunities for EVs: public transport

Waterloo, London bus garage: 46 electric buses smart charged overnight

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E-buses now operating on City Link route in Auckland

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Opportunities for EVs: intra-regional freight

78% of freight movements (million tonnes all modes) are within regions*

* http://www.transport.govt.nz/assets/Uploads/Research/Documents/National-Freight-Demand-Study-Mar-2014.pdf Table 3

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What’s coming next… electric ferries

Two large ferries, Tycho Brahe and Aurora, are operating completely on battery power between Helsingør (Denmark) and Helsingborg (Sweden), a distance of approximately 4 km carrying more than 7.4 million passengers and 1.9 million vehicles annually

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100% electric and autonomous cargo ship

Construction underway in Norway with manned operation scheduled from this year and autonomous operation in 2020

Short range electric passenger aircraft

Avinor, Norway’s airports operator, has a target for the first commercial flight in 2025 and all domestic aviation electric by 2040

What you can do now

1. Test drive an EV if you haven't driven one yet
2. Try out an EV through car share companies like Mevo in Wellington and Yoogo in Christchurch, CityHop in Auckland, or from rental car companies like Europcar, Hertz Auckland, Blue Cars and Snap Rentals
3. Find out more about EVs for your household or company by visiting www.electricvehicles.govt.nz
4. Consider developing an innovative EV project for application to the Low Emission Vehicles Contestable Fund https://www.eeca.govt.nz/funding-and-support/low-emission-vehicles-contestable-fund/

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