

Council Briefing Agenda

Date: Wednesday, 27 September, 2017

Time: 11:00 am

Location: Council Chamber
Forum North, Rust Avenue
Whangarei

Elected Members: Her Worship the Mayor Sheryl Mai
(Chairperson)

Cr Stu Bell

Cr Crichton Christie

Cr Vince Cocurullo

Cr Tricia Cutforth

Cr Shelley Deeming

Cr Sue Glen

Cr Phil Halse

Cr Cherry Hermon

Cr Greg Innes

Cr Greg Martin

Cr Sharon Morgan

Cr Anna Murphy

For any queries regarding this meeting please contact
the Whangarei District Council on (09) 430-4200.

1. Apologies

2. Reports

2.1 Electric Vehicles

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3. Closure of Meeting

2.1 Electric Vehicles

Meeting: Council Briefing
Date of meeting: 27 September
Reporting officers: Alan Adcock (General Manager – Corporate/CFO) Tony Horton (Manager Strategy), Caine Varley (Team Leader Property Assets), Jeff Devine (Manager Roading)

1 Purpose

To brief Councillors on options for electric vehicles in our fleet and opportunities to support infrastructure provision for electric vehicle charge stations.

2 Background

New Zealand is seeing an increasing number of electric vehicles on its roads. Lowering costs of electric vehicles verses rising costs of petrol and car maintenance are making them a more attractive option for car purchasers.

The number of registered electric vehicles in New Zealand has increased from 206 in August 2013 to 4,541 in August 2017

Last central government announced a series of policies to support the increase in the number of electric vehicles in New Zealand to 64,000 by 2021.

Whangarei District Council currently has 1 electric vehicle and is expecting the delivery of 3 more in October.

WDC has also supported a number of projects to install electric vehicle charge points across our District. The main providers of charge points in our district are Northpower and Charge Net.

3 Discussion

With the growth in electric vehicle numbers, a number of local government and public sector agencies have reviewed their vehicle fleet policy and have investigated opportunities to support charging infrastructure.

Fleet Vehicles

Attachment 1 outlines information and options for the procurement of new and replacement vehicles for our fleet and whether it is appropriate to consider further acquisition of electric vehicles. The options for consideration are:

1. No change to our current fleet policy.
2. Change the policy to consider electric vehicles for the replacement of small vehicles only.
3. Full replace of existing fleet vehicles with electric vehicles.

Charge station infrastructure

Attachment 1 also outlines opportunities to support the provision of electric vehicle charging infrastructure.

Through central government's Low Emission Contestable Fund, WDC has an opportunity to apply for a share of \$6m of contestable funding to support electric vehicle infrastructure including charge stations within our District. This could focus on:

- Tourist destinations and routes
- Rural areas of the District

Further, it is noted that the likes of Northpower, Charge Net and Spark are continuing to provide charging infrastructure to meet demand and therefore tend to focus on high traffic areas such as city centres and locations along arterial roads and State Highways.

4 Attachment

Attachment 1. Presentation on Electric Vehicles



Electric Vehicles

Presentation to Council Briefing 27 September 2017

Electric Vehicles

Strategic Context: Tony Horton

Fleet management and procurement: Alan Adcock

Transport infrastructure and subsidies: Jeff Devine



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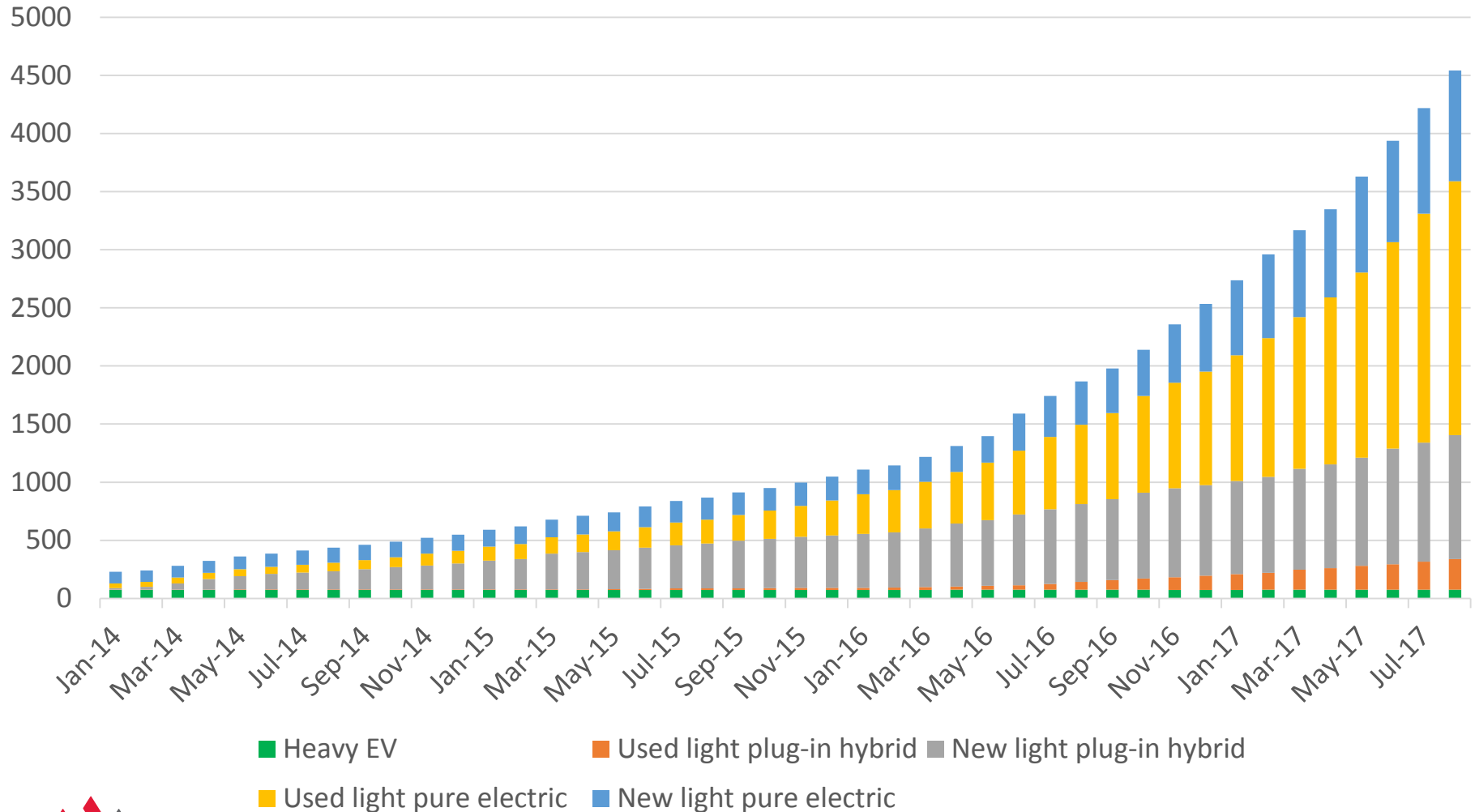
Electric Vehicles Strategic Context

Electric Vehicles – Strategic Context

Electric Vehicles Pro	Electric Vehicles Cons
Cheap to run – equivalent of 30c per litre of petrol	High purchase price
Charge at home or on the road	Limited range
Pollution free driving	Battery re-use and recycling
Noise free driving (urban amenity)	Fit for purpose where 4wd or utes are required
Low emission during lifecycle	Battery materials and battery degradation
Less moving parts – low maintenance	
More efficient (90% compared to 20-30% for a petrol vehicle)	

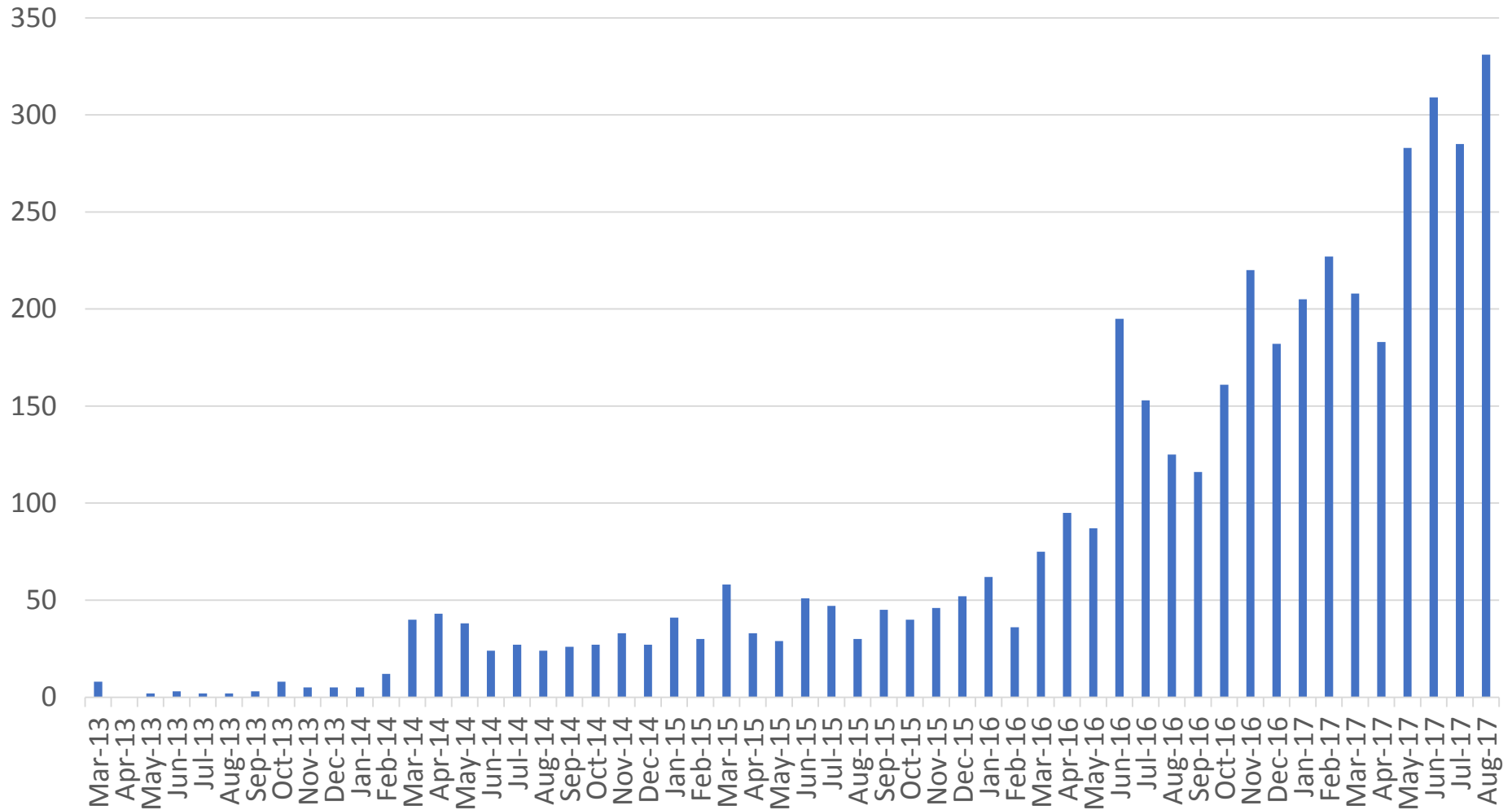
Electric Vehicles – Strategic Context

New Zealand EV Fleet Size



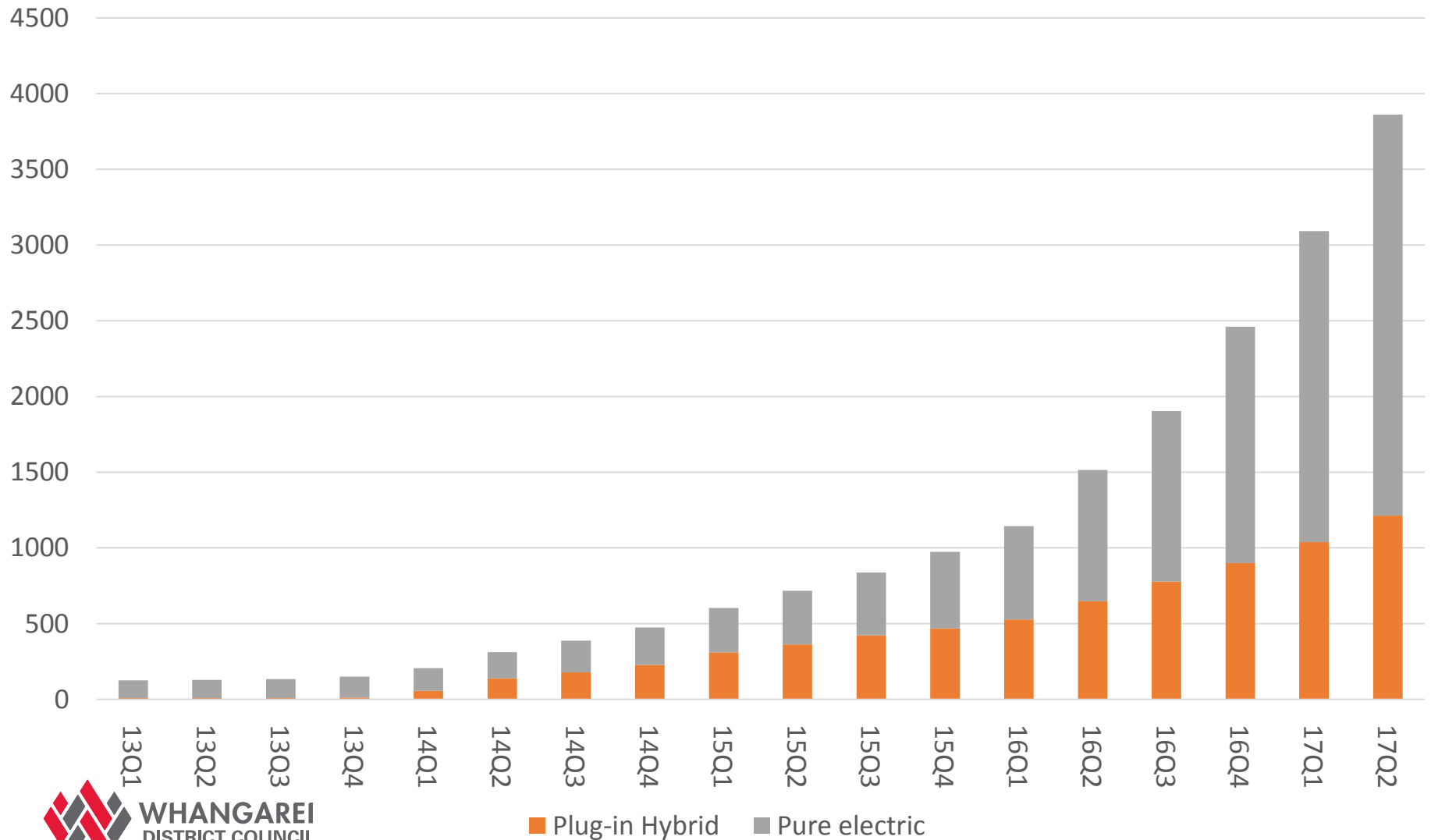
Electric Vehicles – Strategic Context

Monthly Vehicle Registrations for Electric Vehicles in NZ



Electric Vehicles – Strategic Context

Comparison of Plug in Hybrid versus Pure Electric Vehicle Registrations by Quarter



Electric Vehicles – Strategic Context

Central government's Electric Vehicles Programme has a goal of 64,000 electric vehicles on our roads by the end of 2021:

Road User Charges (RUC) exemption on light electric vehicles until they make up 2% of the light vehicles fleet

RUC exemption for heavy electric vehicles until they make up 2% of the heavy vehicle fleet

Work across government and the private sector for bulk purchase of electric vehicles

Government agencies to support the development of public charging infrastructure

\$1 million annually for a nationwide electric vehicle information and promotion campaign over five years

A contestable fund of up to \$6 million per year to encourage and support innovative low emission vehicle projects

Electric Vehicles – Strategic Context

International policy

- A number of countries banning the sale of petrol vehicles – UK and France by 2040, China considering ban.

Market Context

- Manufactures responding. Volvo Cars – All models will include an electric motor by 2019.
- Market response:
 - reducing the upfront costs of Electric Vehicles
 - Increase network of charge stations
- 77% reduction in battery pack price per Kwh between 2010 and 2016



Electric Vehicles

WDC Vehicle Fleet



WHANGAREI
DISTRICT COUNCIL

Electric Vehicles: WDC Fleet

Our current fleet

- 1 x plug-in electric vehicle. Mitsubishi i-MiEV was purchased from NRC approximately 12 months ago.
- The i-MiEV has a short driving range of 100km. This limits its appeal to some staff as a viable option for longer distance site visits or meetings.
- 3 x new Renault Zoe electric vehicles are expected in October. Longer driving range – up to 250 - 300km. These will replace 3 petrol vehicles.
- WDC in conjunction with Northpower are working together to get 4 new charging stations installed at Walton Plaza.
- The will include 1 superfast charging station which can fully charge the Zoe in under 2 hours and 2 slower stations for overnight recharging.

Electric Vehicles: WDC Fleet

WDC has a contract in place with Ministry of Business, Innovation and Employment (MBIE) for supply of our fleet vehicles under an All of Government supply agreement.

This unfortunately limits the range of vehicles available at this time. However, MBIE are continuously adding to the selection as suitable vehicles come onto the market.

Currently 9 compact and medium electric vehicle's available but no heavy duty utility vehicles

Electric Vehicles: WDC Fleet

Price comparisons: Total cost of ownership (TCO)

Model	Mazda3 GLX Hatch	Toyota Corolla Hybrid FWD 1.8P Hatch	Renault Zoe Intens Z.E 40 BEV
Fuel	Petrol	Hybrid Petrol (PHEV)	Battery Electric (BEV)
AOG Contract Price	\$22,000.00	\$24,661.60	\$51,526.86
Rec. Retail Price	\$32,795.00	\$38,500.00	\$75,000.00
TCO	\$25,721.00	\$27,147.95	\$48,254.43

Model	Mitsubishi Outlander AWD LS	Mitsubishi Outlander AWD XLS	Mitsubishi Outlander PHeV XLS
Fuel	Petrol	Diesel	PHEV
AOG Contract Price	\$26,156.00	\$32,295.00	\$43,471.00
Rec. Retail Price	\$43,990.00	\$49,990.00	\$60,990.00
TCO	\$31,447.00	\$35,107.00	\$38,589.56

Electric Vehicles: WDC Fleet

Option 1

No change to the Fleet Policy and review in the future as new EV sale prices continue to drop. E.g. to within 20% of purchase price of a petrol/diesel vehicle

Option 2

Amend existing policy to evaluate EV's for small vehicles in the fleet when replacement is required:

1. Evaluate a fully electric vehicle based on 'fit for purpose'
2. If a fully electric vehicle is not fit for purpose, evaluate a plug-In hybrid vehicle.
3. If neither a fully electric nor a plug-in hybrid vehicle are fit for purpose then a case is made to purchase a petrol/diesel vehicle.

Option 3

Full replacement of the fleet with electric vehicles across the fleet.

Electric Vehicles Support for Electric Vehicle Infrastructure



Electric Vehicles: Charging Infrastructure

Northpower and Charge Net are the two main providers of Charging Stations across the District.

As demand grows through an increased number of vehicles on the road, new charge stations will need to be provided.

Location is key to maximizing economic benefits as well as convenience for the driver.

Electric Vehicles: Charging Infrastructure

Existing Charge Station Locations	Charge type	Output (kW)
Northpower Tutukaka	Medium	22
Northpower Ruakaka	Slow	7
Northpower Alexander St	Fast, Medium & Slow	50, 22 & 7
Northpower Town Basin	Medium	22
NRC/WDC Carpark Forum North	Slow	7
Spark Charger Waipu	Slow	7
Charge Net Tikipunga	Fast	50
Charge Net Whangarei McDonalds (SH1)	Fast	50

Electric Vehicles: Charging Infrastructure

Low Emission Contestable Fund

Fund provides up to \$6m per year to co-fund projects with private and public sector partners.

50% funding available for projects which:

- increase the choice and supply of electric vehicles
- Improve the availability of charging infrastructure
- Increase demand for EV's
- Develop innovative products for Evs

Examples of the types of projects considered include:

- Charging infrastructure at tourist destinations/tourist routes
- Development or rural charging networks

Electric Vehicles: Charging Infrastructure

Low Emission Contestable Fund

WDC looking to partner with NRC to apply for funding from the Low Emission Contestable Fund.

This partnership will support charging stations along the Twin Coast highway as key tourist route and destination.

Outside the Low Emission Contestable Fund, the likes of Northpower, Charge Net and Spark will continue to provide charge stations to meet demand which is generally focused in our urban areas, arterial roads and State Highways.

Questions

