

The logo for the Toronto Electric Vehicle Association (TEVA) features a thick white horizontal bar above the word "TEVA" in a large, bold, white, sans-serif font. Below "TEVA", the full name "TORONTO ELECTRIC VEHICLE ASSOCIATION" is written in a smaller, white, all-caps, sans-serif font.

TEVA
TORONTO ELECTRIC VEHICLE ASSOCIATION

The TELUS logo consists of a stylized white script symbol resembling a lowercase 't' followed by the word "TELUS" in a bold, white, sans-serif font.

TELUS

The kevric logo features the word "kevric" in a white, lowercase, serif font. A white curved line arches over the letters 'v' and 'r', ending in a small circle above the 'i'.

kevric

Owning an Electric Vehicle in Ontario
with Paul Sr. and Paul Jr.

Types of Electric Car Drivetrains

Battery Electric Vehicle (BEV)



Range Extended Electric Vehicle (REx EV)



Plug-In Hybrid Vehicle (PHEV)



Fuel Cell Vehicle (FCV) a.k.a. hydrogen





Tesla Model S



BMW i3 REX



Audi A3 e-tron



Toyota Mirai

Alternative Electric Vehicles

Zero Motorcycles | S



Motorcycles

Elektra | One



Planes

Canadian Electric Boat Company | Bruce 22



Boats

Marbel | 2.0



Recreational

Availability



Audi: 1

BMW: 6

Cadillac: 1

Chevrolet: 2

Chrysler: 1

Ford: 3

Honda: 2

Hyundai: 3

Karma: 1

Kia: 2

Mercedes: 2

Mini: 1

Mitsubishi: 1

Nissan: 1

Porsche: 3

Smart: 1

Tesla: 2

Toyota: 1

VW: 1

Volvo: 1

35 New Electric Cars from 20 Brands (2017)

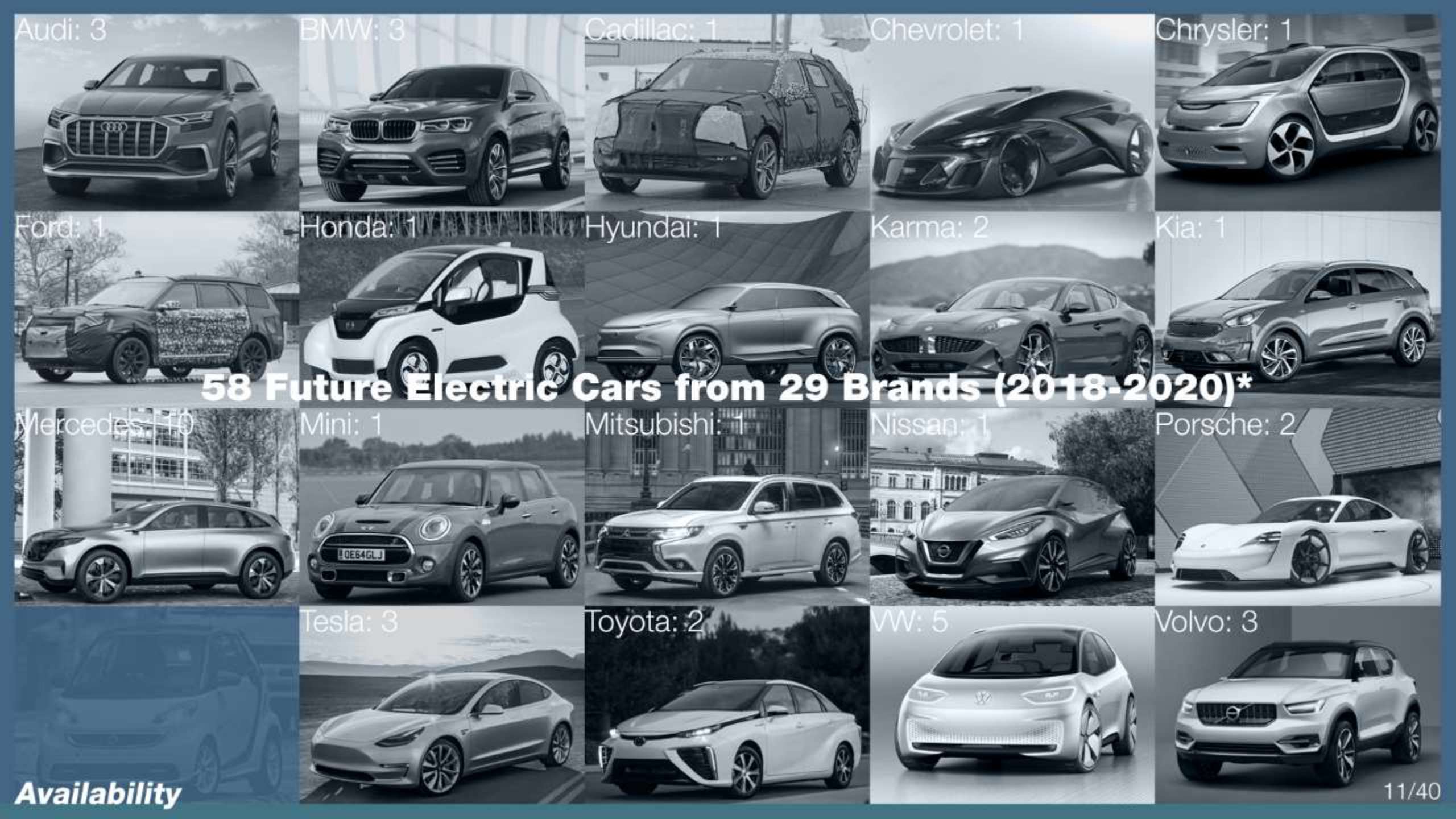
Availability

09/40



25 Used Electric Cars from 16 Brands (2008-2016)





Audi: 3

BMW: 3

Cadillac: 1

Chevrolet: 1

Chrysler: 1

Ford: 1

Honda: 1

Hyundai: 1

Karma: 2

Kia: 1

58 Future Electric Cars from 29 Brands (2018-2020)*

Mercedes: 10

Mini: 1

Mitsubishi: 1

Nissan: 1

Porsche: 2

Tesla: 3

Toyota: 2

VW: 5

Volvo: 3

Availability



2020 Total: 95 Electric Cars from 31 Brands*

Availability

Price Range

Used (2008-2016)

'14 Smart Fortwo Electric Drive
\$10,995



'15 Porsche 918 Spyder
\$2,100,000



New (2017)

Mitsubishi i-MiEV
\$27,998



Porsche Panamera
Turbo S E-Hybrid Executive
\$221,700



Future (2018 - 2020)

'19 Electra Meccanica
\$20,000



'19 Rimac Concept One
\$1,300,000



Incentives

Ontario Government Incentives: purchasing or leasing a new electric vehicle*

Parameters: battery capacity, battery size, seats, and type of drivetrain

**when purchased, not leased



Purchase
\$3,000 - \$14,000

1 Year Lease
33% of incentives

2 Year Lease
66%

3 Year Lease
Full

*BEV: No incentives for cars over \$150,000.

PHEV: " " + MSRP \$75k - \$150k get max \$3k incentives

Full list of available incentives:

Ontario Government Incentives: purchasing a new charging station

Parameters: charging level, residential or commercial, charger port count, location of purchase

Rebate Coverage:
50% of cost (up to \$500)

+

50% of installation cost
(up to \$500) (max value of \$1k)



Level 2
Charging Stations

Level 3
Charging Stations

Full list of eligible charging stations:

<http://www.mto.gov.on.ca/english/vehicles/electric/charging-incentive-program.shtml>

Electric vs Gas

BEV vs ICE savings

2017 Ford Focus 5dr HB Electric



2017 Ford Focus 5dr HB SE



BEV's

- (avg.) \$2.25/100km

based on 2000km/month:

- energy costs \$45

net energy saving (BEV): \$230

+ substantial maintenance cost savings

ICE cars

(avg.) \$13.79/100km -

energy costs \$275 -

Chargers

Level 1

120 Volts / 15 Amps

- slowest charging
- cheapest charger
- available for every car

SAE J1772



Level 2

240 Volts / 20 - 80 Amps

- moderate charging
 - cost-effective charger*
 - available for every car
- *with incentives

SAE J1772



Tesla



Level 3

480 Volts / 100+ Amps

- fast charging
- only business sales
- available for all BEV's
- some availability for PHEV's

CHAdEMO



SAE J1772
Combo



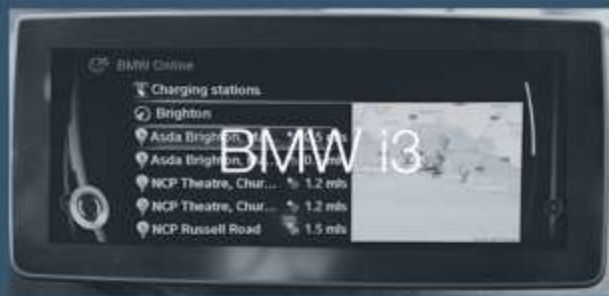
Tesla



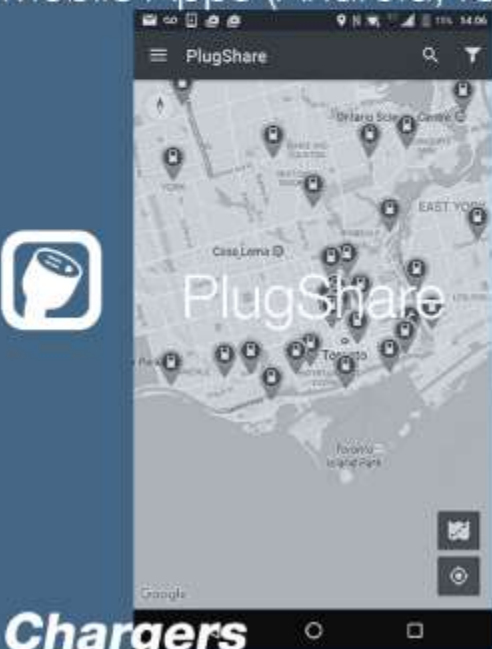
“OK... but how do I find them?”

Desktop Websites

In-Car GPS



Mobile Apps (Android, iOS)



ChargePoint



FLO



myEVRoute





Please do not park your ICE car in EV charging spots



EV's parking in charging spots and not charging



BEV priorities over PHEV and REX



Cost of Ownership

Maintenance

\$\$\$

- fewer moving parts
- no oil changes
- very minimal fluid replacements
- minimal use of brakes (regen)

Reliability

\$\$\$

- temperatures affect battery range
- occasional software updates needed
- fewer breakdowns than ICE cars
- rare case: battery pack replacement

Lifespan

\$\$\$\$

- thermal management
- (+,-) %5 range loss: 300k km (i.e. Tesla)
- can easily outlive ICE cars
- frequency of fast charging

2015 Chevy Spark EV



2017 VW e-Up drivetrain



1909 Baker Electric (with Jay Leno)



***Experience with a
BEV, PHEV, and REx***

BEV: 2012 Mitsubishi i-MiEV



- Dec. 2011 to Nov. 2013
- third family car
- city use only
- early adopter
- lack of early public charging infrastructure
- home + office charging only



PHEV: 2014 Ford Fusion Energi



- Nov. 2013 to Mar. 2016
- most versatile
- can be the only family car
- intercity trips possible
- personal record: 4 months and 6000km on 1 tank of gas
- short EV range
- high performance in hybrid mode
- low performance in EV mode

REx: 2015 BMW i3



- Mar. 2016 to present
- long EV range
- high performance in EV mode
- low performance in REx mode
- newest model 50% more range
- intercity trips possible
- fast charging option recommended
- unique car with high tech structure, design, finishes (carbon fibre)



Experience

BEV vs PHEV vs REX

Which one is for you?



vs



vs



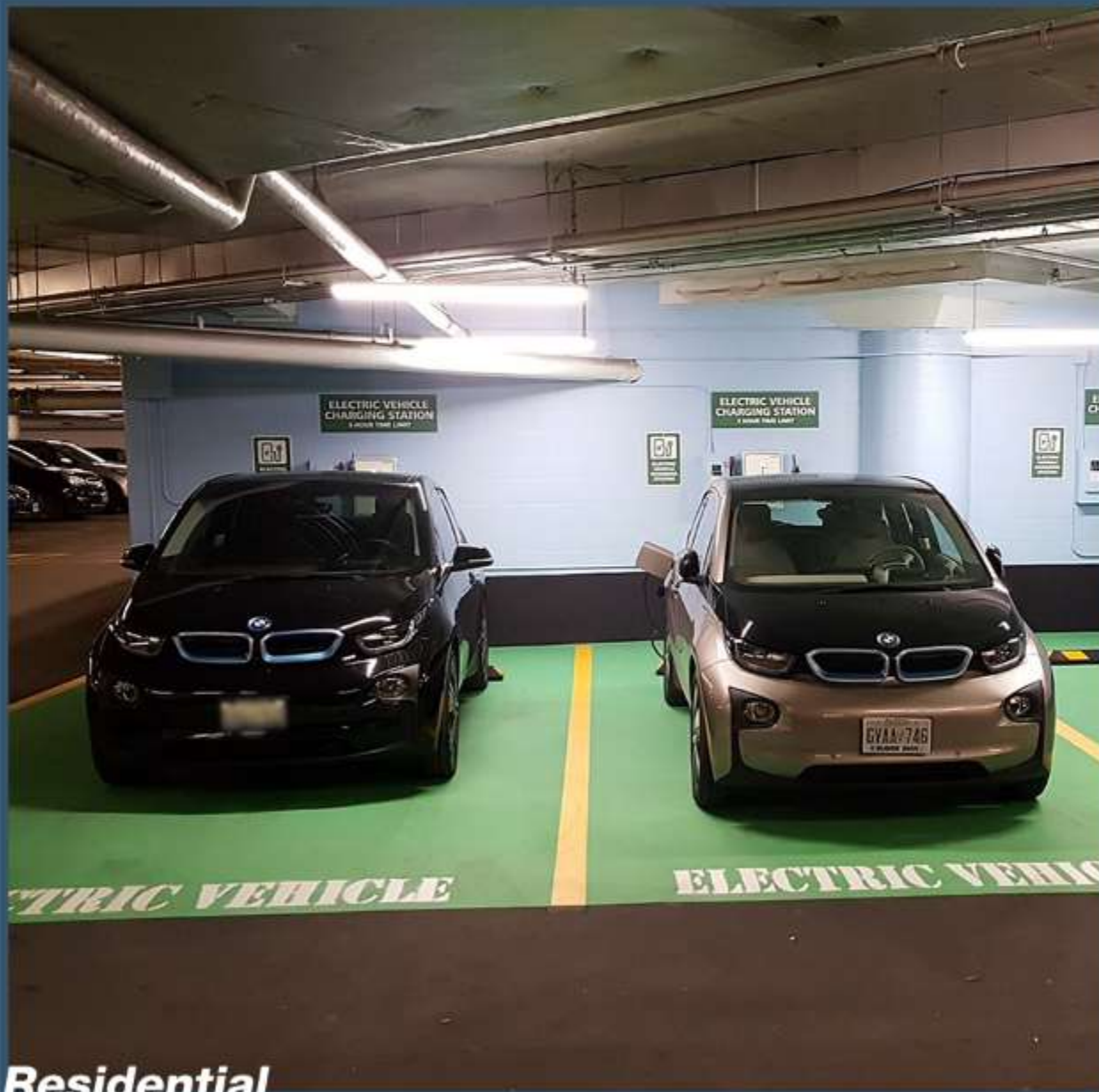
Residential

Homes & EV's



- level 1 or 2 charging
- self installed or professional
- easy to do
- average cost: \$0 to \$10,000

Condos / Apartments & EV's



- level 1 or 2 charging
- difficult installation
- board/mgmt approval needed
- high cost \$5,000 to \$20,000
- shared charging recommended
- separate metering needed

Acquisition

Now

Getting an EV...

Later



2017 Smart Fortwo ED



2018? Tesla Model 3

Pros

- limited time government incentives
- affordable used EV's

Cons

- better tech around the corner
- lacking public charging infrastructure

Acquisition

Pros

- longer range
- lower prices

Cons

- limited time government incentives
- incentives canceled by new government after elections?



Are Electric Cars for You?

Acquisition

And now a few words from
kevric

Q&A / Discussion

please visit:
teva.one (website)
teva.zone (youtube)
facebook.ca/tevassociation
twitter.ca/torontoev

THANK YOU