



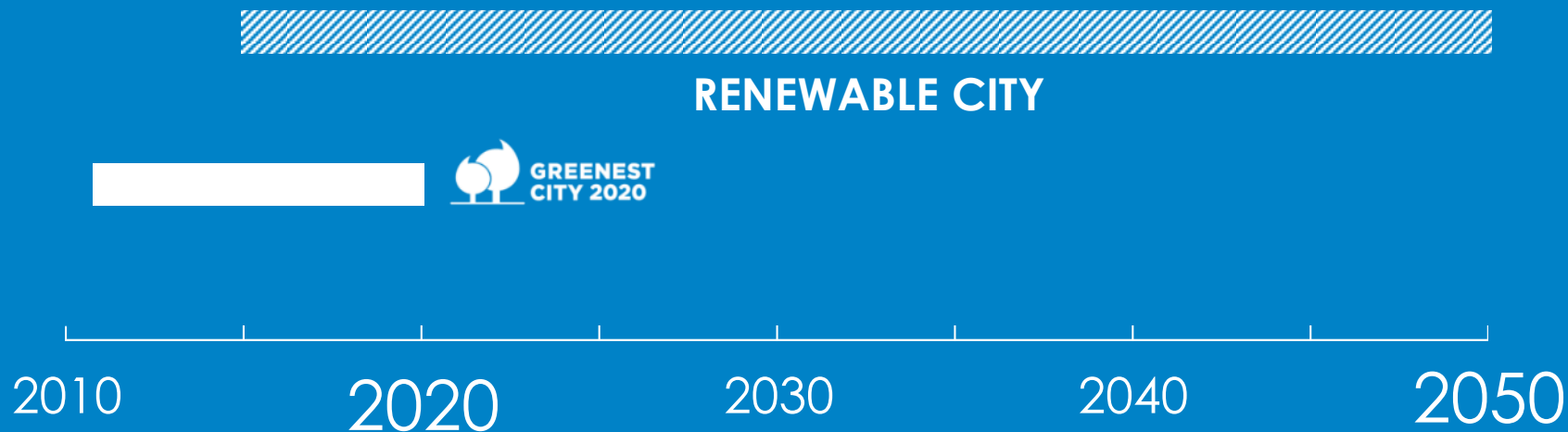
GREENEST CITY & RENEWABLE CITY INITIATIVES

Planning, Urban Design &
Sustainability
November 16, 2016

RENEWABLE CITY STRATEGY (RCS)

2020 AND BEYOND

In November 2015, City Council committed to achieving 100% renewable energy use before 2050.

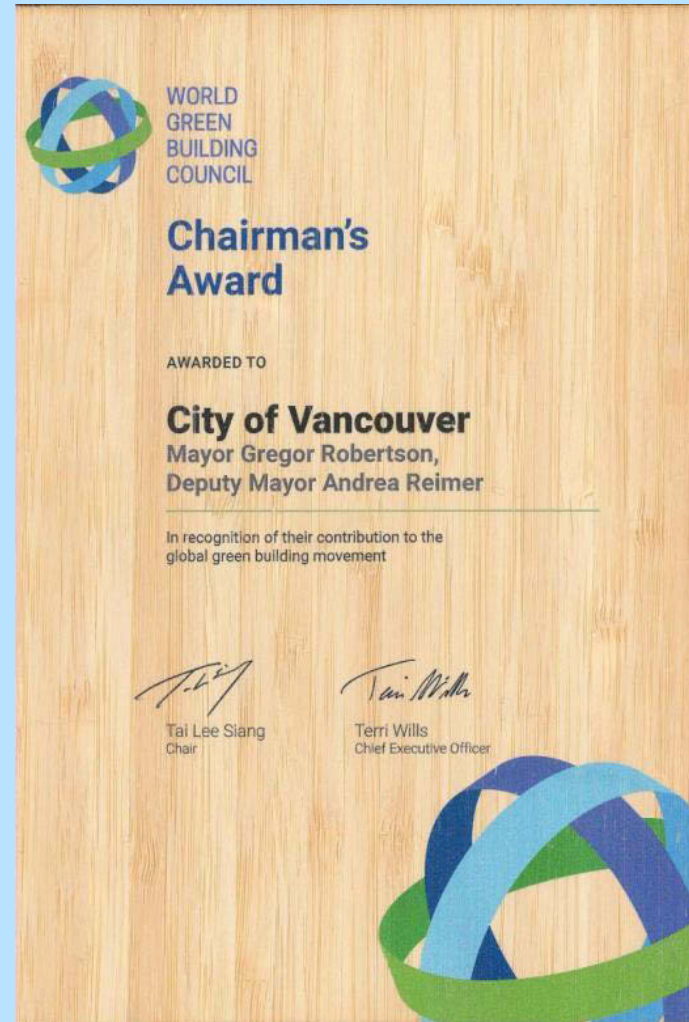


RCS 2016 HIGHLIGHTS

RCS approved
~ November 2015

*Zero Emissions
Building Plan* ▶
~ July 2016

Engagement
and education
~ ongoing





RENEWABLE CITY

OUR FUTURE TO 2050

 [PLAY VIDEO](#)

IN 2017 *Renewable Energy Strategy
for City Facilities*

*VBBL Amendments for Energy
Efficient Low-Rise MURBs*

Building Retrofit Plan Update

RCS Implementation Plan

TODAY *EV Ecosystem Strategy*

Greenest City Fund

*Green Building Policy for
Rezoning Update*

EV ECOSYSTEM STRATEGY

Sustainability Group
REPORT TO COUNCIL
November 16, 2016





The Vancouver Context for EVs

The EV Ecosystem

The City's Role and Approach

85% of Vancouverites

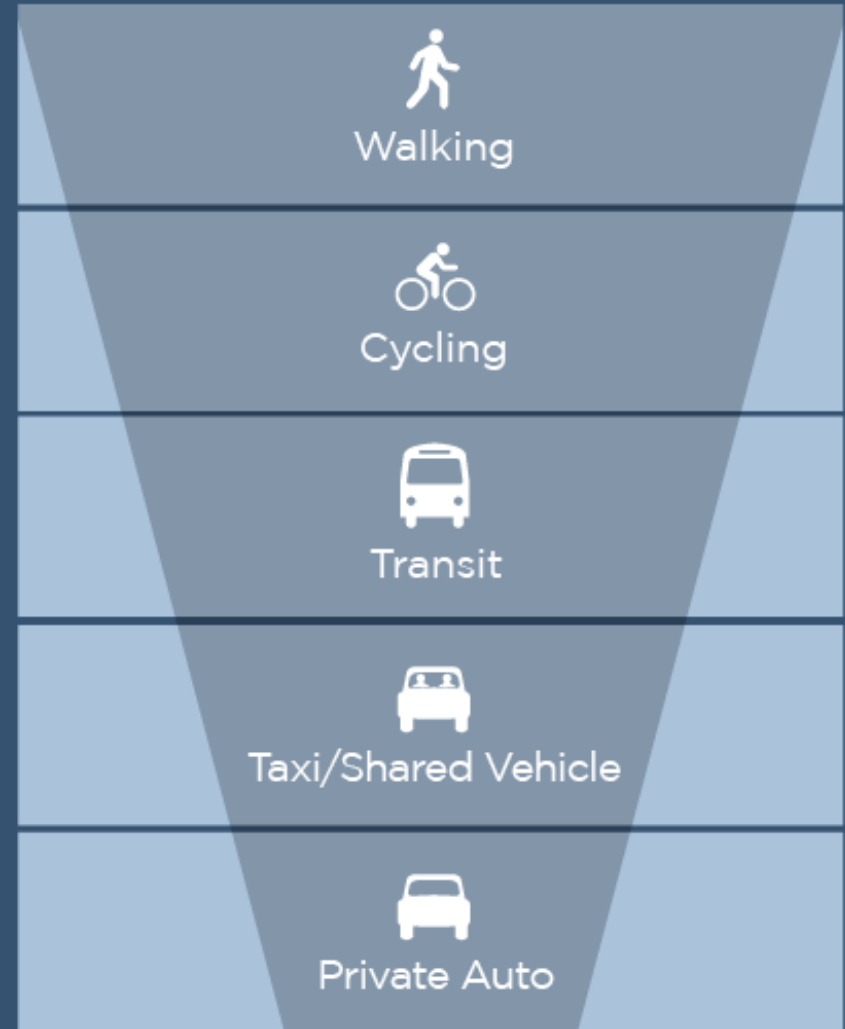
purchasing a new car in the next 5 years
plan on, or would consider, an **EV**.



CITY POLICY CONTEXT

- » Renewable City Strategy
- » Greenest City Action Plan
- » Transportation 2040
- » Healthy City Strategy

EV charging infrastructure supports these areas



OTHER LEADING JURISDICTIONS



VANCOUVER'S CHARGING INFRASTRUCTURE



2007

EV Working Group

2009

Vancouver Building By-Law

2010

Project Get Ready

2011-2014

Charge & Go

2016

DC Fast Charge



BARRIERS TO EV ADOPTION IN VANCOUVER

Lack of home
charging access

Current network
does not meet user needs

Range < peak driving need

Business risk

Lack of vehicles

A close-up photograph of a black charging station with a green and black logo that reads "ChargePoint Network". The station is mounted on a metal pole. In the background, a blurred blue car is parked at the station. The overall scene is outdoors with green foliage in the distance.

ChargePoint
Network

OBJECTIVE

Formalize the City's role as a **market incubator** and as a provider of access to EV charging— a community amenity — over the next five years.

THE EV ECOSYSTEM

Charging needs by neighbourhood and building use

Integrated and adaptable; part of City planning process;

All parking stalls in 1 and 2 family homes equipped with Level 2 circuit

Level 2 charging expanded to all public facing City properties



Maintain focus on walking cycling and transit

Labelling of EV charging circuits improves visibility to new residents

Preferential parking rules under development

REMOVING BARRIERS

Accessibility
Affordability

Economic Opportunity

Expanded access to workplace charging

EHUB for fast recharging of Commercial vehicles

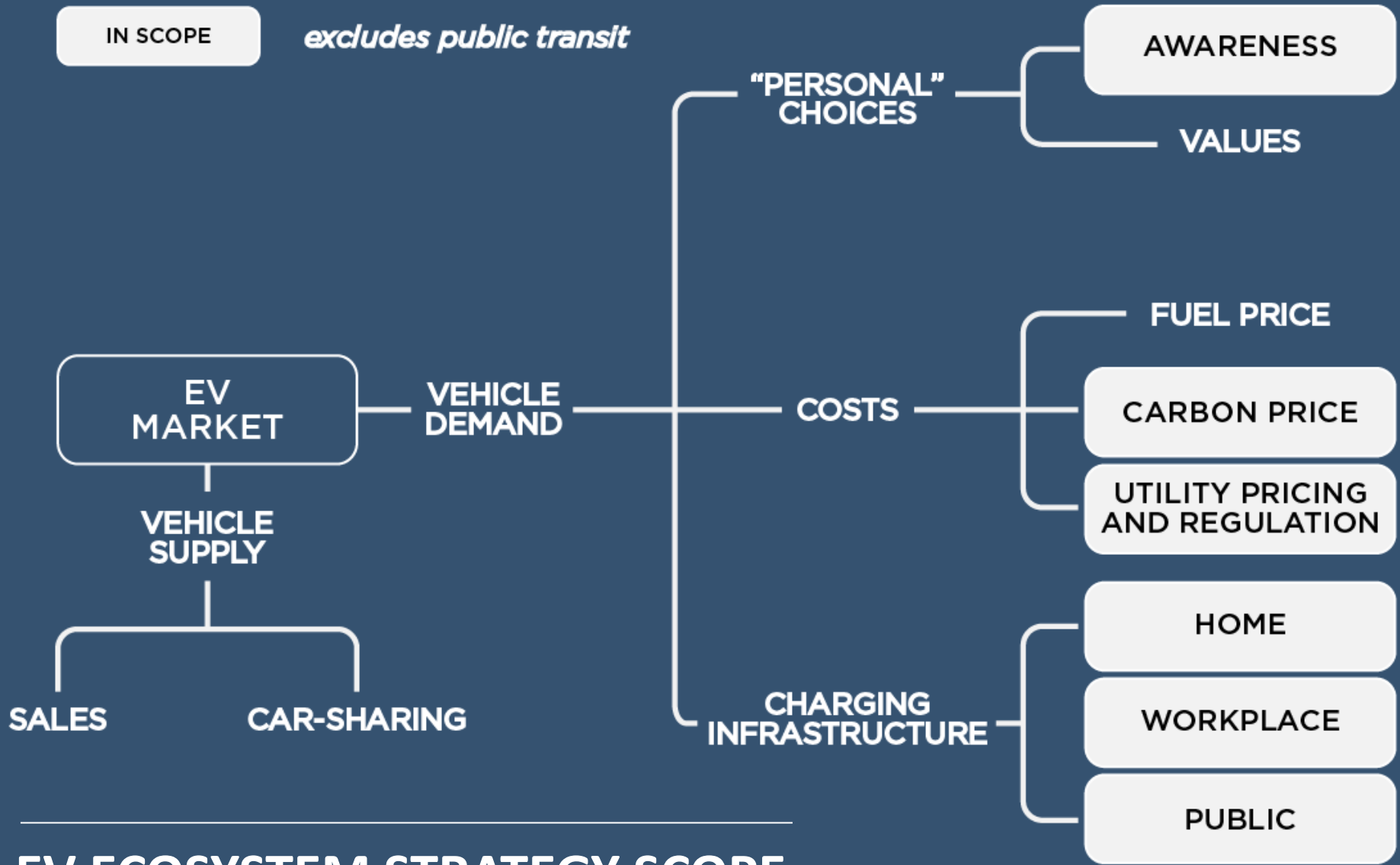
Workplace retrofit incentive program

*Commercial curbside pilot project
Supported by storefront*



IN SCOPE

excludes public transit



EV ECOSYSTEM STRATEGY SCOPE

2016-2021

Five year strategy
with long-term view

MARKET SUPPORT

available and reliable
infrastructure

THE CITY'S ROLE

POLICY LEVERS

Land-use and
building policies

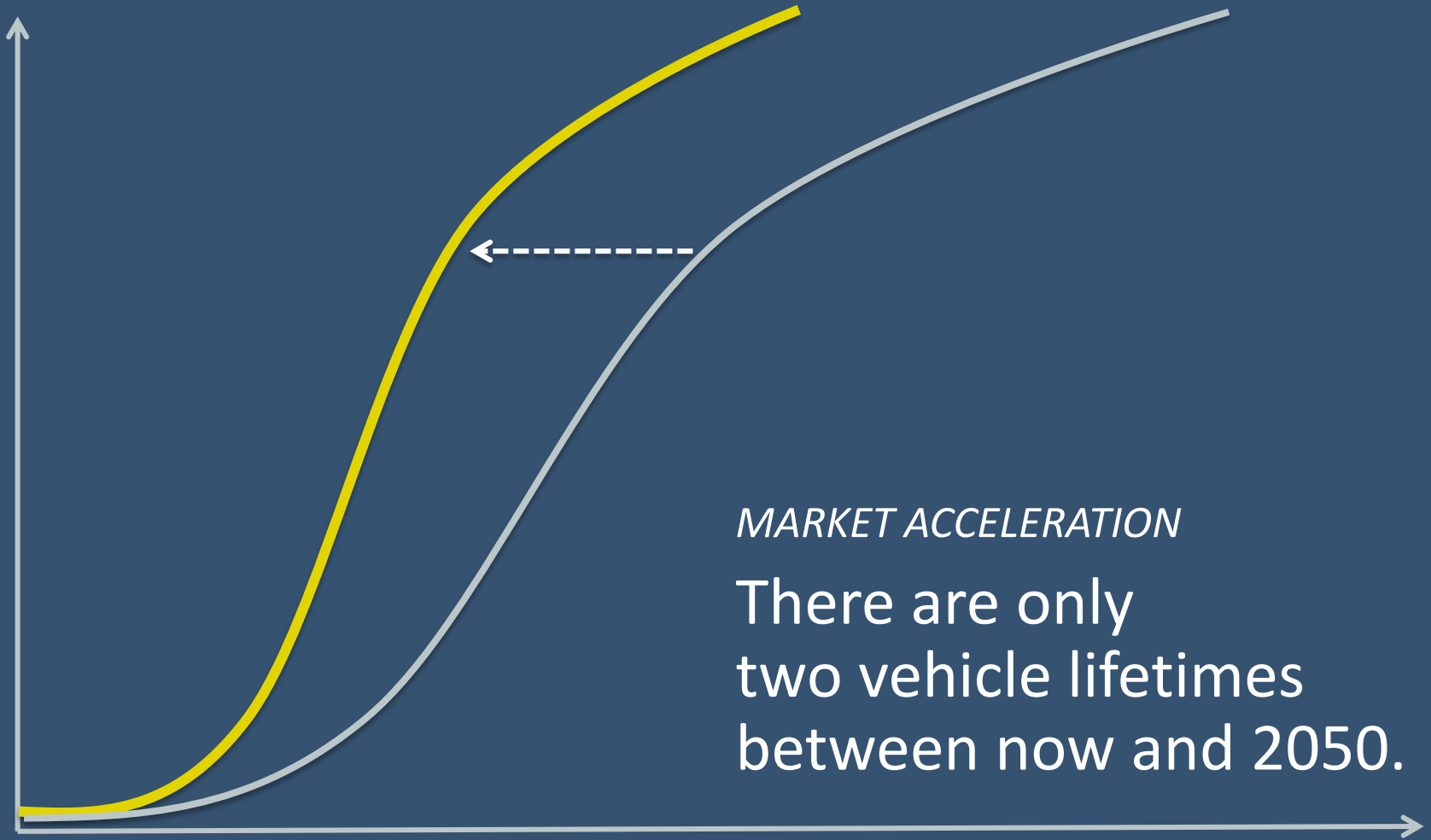
OPTION TO EXIT

potential transition
to private sector

EV SALES

CITY AS MARKET ACCELERATOR

Market without intervention



MARKET ACCELERATION

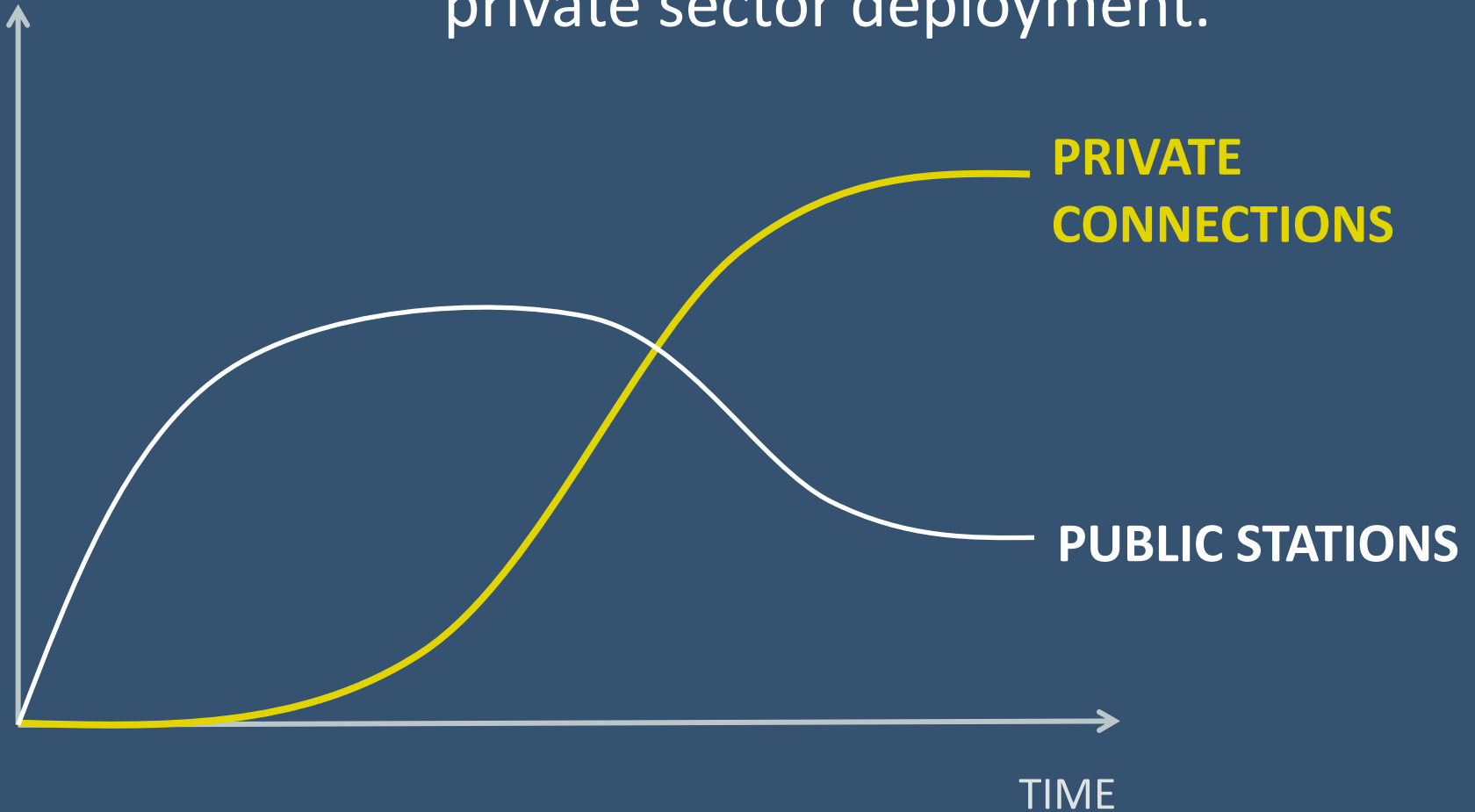
There are only two vehicle lifetimes between now and 2050.

TIME

LONG-TERM BUILD-OUT

Market size (i.e., # customers) determines the business case for private sector deployment.

STATIONS



PRIVATE CONNECTIONS

PUBLIC STATIONS

TIME

CAPITAL REQUEST **\$3M** over five years

All parking stalls in 1 and 2 family homes equipped with Level 2 circuit

Level 2 charging expanded to all public facing City properties

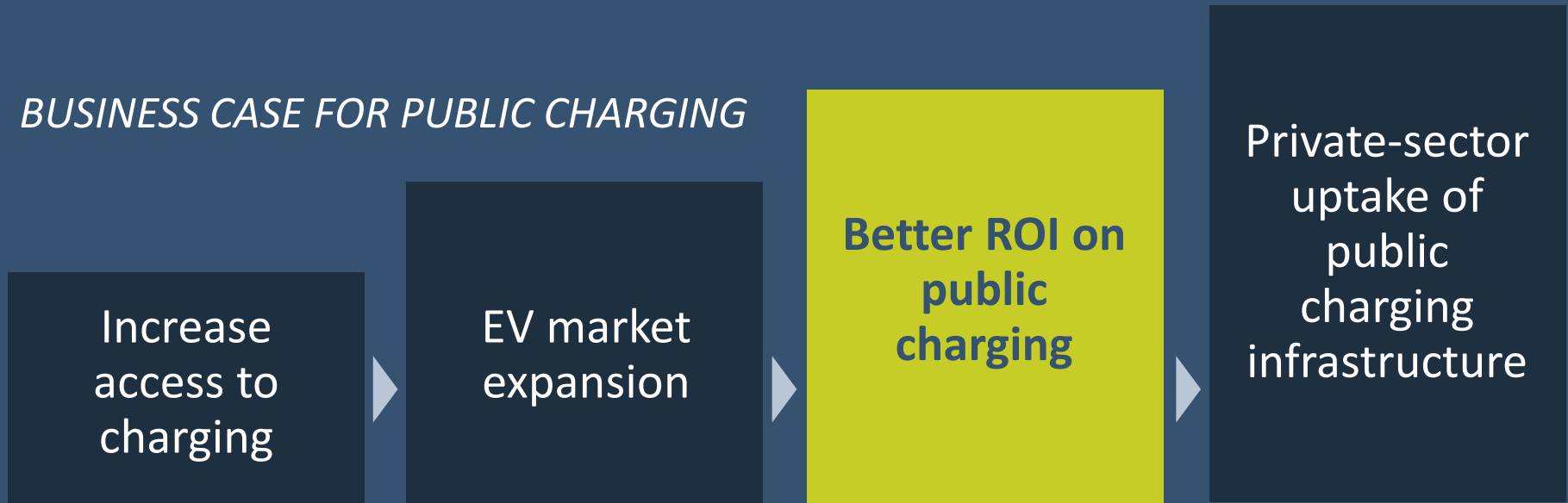


Maintain focus on walking cycling and transit

Labelling of EV charging circuits improves visibility to new residents

Preferential parking rules under development

BUSINESS CASE FOR PUBLIC CHARGING



Estimated # of EVs in Vancouver



~1,000

in 2016

~30,000

by mid-2020s

~200,000

by 2050

APPROACH

Expand access
to home and
workplace charging

Improve the
public charging
network

Integrate EV
infrastructure
planning into core
City processes

A person is shown from the side, wearing a dark blue long-sleeved shirt and a watch, plugging a white charging cable into the charging port of a dark-colored car. The background is a light-colored wall with horizontal siding.

HOME AND WORKPLACE

FLEXIBILITY AND SIMPLICITY

Expand EV charging requirements

VISIBILITY

Require specific, highly visible labelling

FINANCIAL SUPPORT

Develop incentive programs

ADVOCACY

Provide certainty of access

PUBLIC CHARGING NETWORK

INTEGRATED PLANNING AND FINANCING

EHub charging hubs

FAIR AND EXPANDED ACCESS

Improved public Level 2
charging access and visibility

CORE CITY PROCESSES

ENGINEERING SERVICES

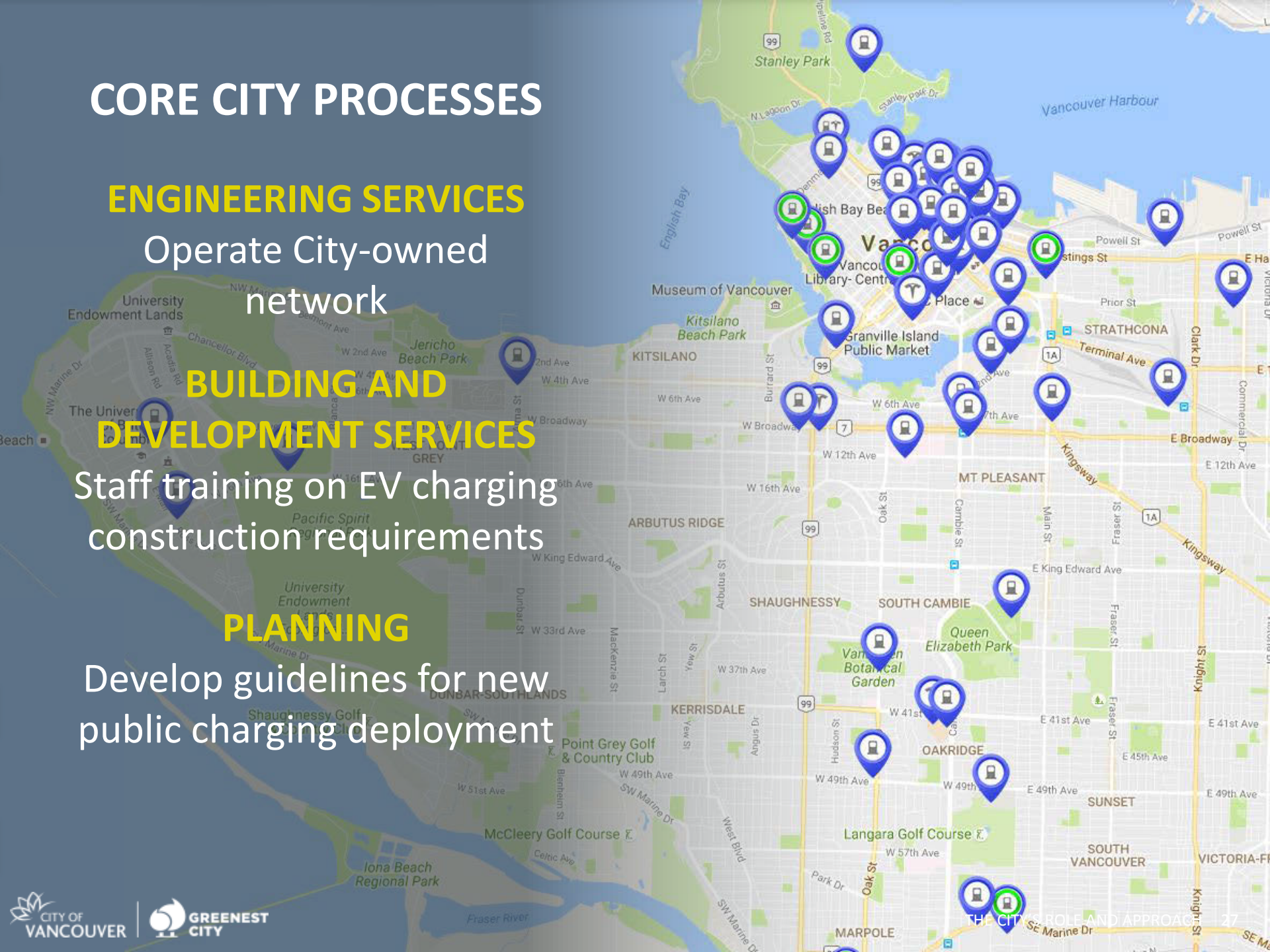
Operate City-owned
network

BUILDING AND DEVELOPMENT SERVICES

Staff training on EV charging
construction requirements

PLANNING

Develop guidelines for new
public charging deployment



CAPITAL REQUEST

\$3M over five years

EV ECOSYSTEM STRATEGY OUTCOMES

20 - 25

fast charging
stations

40

Level 2
stations

\$40M

117,000 tCO₂e

annual savings
by mid-2020s

*All parking stalls in land use zones
homes equipped with Level 2 circuit*

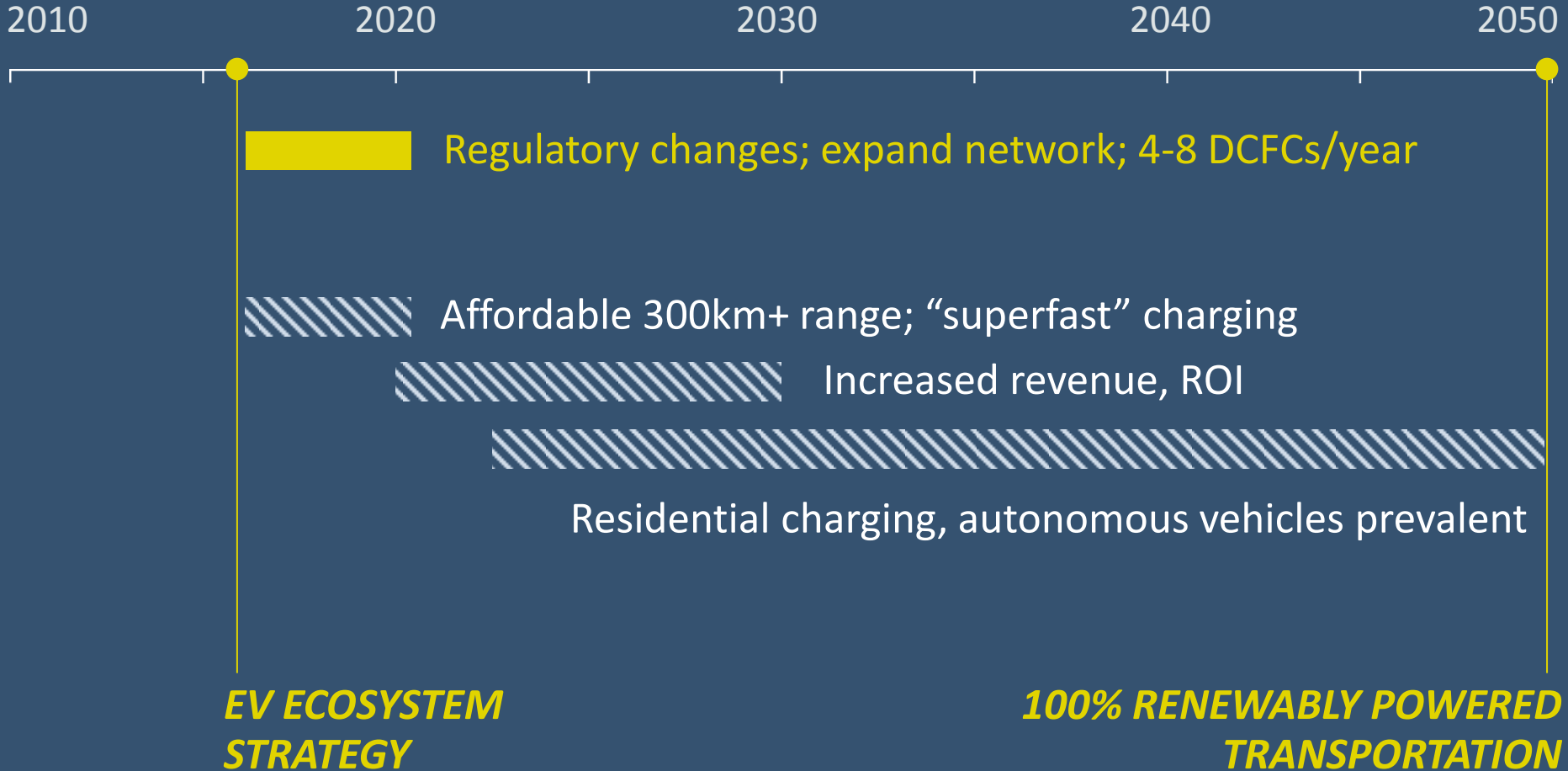
*charging expanded to
all public facing City properties*

*Maintain focus on walking
cycling and transit*

*Labelling of EV charging circuits
improves visibility to new residents*

Preferential parking rules under development

WHERE WE'RE GOING



**EV ECOSYSTEM
STRATEGY**

**100% RENEWABLY POWERED
TRANSPORTATION**



NEXT STEPS

NOVEMBER

Final strategy to stakeholders
Park Board
ACES Working Group

DECEMBER-JANUARY

Regional Pricing Committee
Quick Start actions



Reserved for
electric vehicles



Reserved for
electric vehicles



MURB retrofit incentive increases

EV affordability in existing buildings

*Cellular repeaters in underground parking
for EV charging network services and
preparation for autonomous vehicles*

*E Hubs supplement
home charging*

*Construction requirements
reflect building use*

Questions?

*Public fast charging enables EV car-sharing,
EV commercial fleets and EV taxis*

VANCOUVER

VANCOUVER

VANCOUVER

MARKET

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