

**BRITISH COLUMBIA UTILITIES COMMISSION
IN THE MATTER OF THE UTILITIES COMMISSION ACT**

**British Columbia Utilities Commission Inquiry into the Regulation of Electric
Vehicle Charging Service**

Project No. 1598941

CITY OF VANCOUVER

WRITTEN SUBMISSION

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1 **1 OVERVIEW**

2

3 1. The City of Vancouver (“City”) files this submission in response to the
4 Commission’s Order G-19-18 governing this Inquiry.

5 2. The City’s comments are organized into two parts

6 a) general comments to explain the City’s interest and policy perspectives on
7 the development of Electric Vehicle (“EV”) charging infrastructure, and

8 b) responses to the Commission’s questions set out in Order G-19-18.

9 3. The general themes that underpin the City’s submission are as follows

10 a) The City supports the development of the EV market and the charging
11 infrastructure to support EVs.

12 b) The development of this service aligns with

13 i. provincial energy and climate policy,

14 ii. several energy objectives established under the *Clean Energy Act*,
15 and

16 iii. City energy and climate objectives and policy.

17 c) The City supports the following key principles established by the
18 Commission in the Alternate Energy Services (“AES”) Inquiry to guide
19 how the Commission should approach public utility regulation.

20 a. Only regulate when required.

21 b. Regulation should not impede competitive markets.¹

¹ BCUC Report, *FortisBC Energy Inc. ~ Inquiry into the Offering of Products and Services in Alternative Energy Solutions and Other New Initiatives*, December 2012, pages 6-7.

- 1 d) The EV charging service market has the potential to be competitive, with a
2 variety of service providers offering competitive options to the EV market.
3 However, some segments of the market and categories of EV charger users
4 are constrained by economic and other factors at this early stage of the
5 market development.
- 6 e) In general, the Commission should forbear from regulating EV service
7 providers to the extent the market conditions allow, but remain available to
8 resolve disputes on a complaint basis where EV service providers can exert
9 undue market power because of market constraints. The Commission
10 should adjust its approach to regulation based on the different categories of
11 EV charging service, based on the extent to which the EV owner has access
12 to competitive alternatives.
- 13 f) EV charging service operators should be allowed to recover the costs of
14 constructing and operating charging infrastructure through the rates they
15 charge so long as the rates are reasonable for the nature and quality of the
16 service.
- 17 g) The Commission should review the applicable rate design of public utilities
18 that supply power to EV charging services to remove any unintended
19 impediments to the development of EV charging infrastructure and the
20 adoption of EVs, including
- 21 i. Whether residential stepped rates create a disincentive to install and
22 use EV charging infrastructure in residential and business locations
23 where EV owners park.
- 24 ii. Whether time-of-use rates can be structured to encourage the use
25 of EV charging at low cost, off-peak times.
- 26 h) The Commission should review the effectiveness of the EV charging
27 regulatory regime within the next 5 years.

1 i) The Commission should report to government on any amendments to the
2 *Utilities Commission Act* that are necessary to implement the Commission’s
3 recommended regulatory regime.

4 j) To support the orderly development of the EV charging infrastructure
5 market, the federal, provincial and local governments will need to undertake
6 further policy actions, including fiscal incentives, to facilitate the
7 development of the market to a viable competitive stage.

8 **2 BACKGROUND ON PROVINCIAL AND CITY OF VANCOUVER POLICY** 9 **ON ELECTRIC VEHICLE INFRASTRUCTURE**

10 **2.1 BC Commitments Relevant to Electric Vehicles**

11 4. The BC government has several policy commitments relevant to EVs that are an
12 important context for this inquiry. The regulatory framework that BCUC establishes
13 should align with and support these provincial commitments. The relevant commitments
14 include:

15 a) The 2020 and 2050 climate change targets established in the *Greenhouse*
16 *Gas Reduction Targets Act* and the *Clean Energy Act*. While these targets
17 have a broader focus than transportation or EVs, achieving these targets will
18 require a substantial transition to zero emission vehicles.

19 b) Other British Columbia’s “energy objectives” under the *Clean Energy Act*,
20 including the following listed under section 2 of that Act

21 (d) to use and foster the development in British Columbia of
22 innovative technologies that support energy conservation and
23 efficiency and the use of clean or renewable resources;

24 ...

25 (h) to encourage the switching from one kind of energy source
26 or use to another that decreases greenhouse gas emissions in
27 British Columbia;

- 1 (i) to encourage communities to reduce greenhouse gas
2 emissions and use energy efficiently; ...
- 3 c) British Columbia has been a member of the Zero-Emission Vehicle Alliance
4 since December 2015, which includes the commitment to: “strive to make
5 all passenger vehicle sales in our jurisdictions ZEVs as fast as possible, and
6 no later than 2050.”²
- 7 d) British Columbia signed the *Pacific Coast Action Plan on Climate and*
8 *Energy* on October 28, 2013³, which includes the commitment to:
- 9 Take actions to expand the use of zero-emission vehicles, aiming for
10 10 percent of new vehicle purchases in public and private fleets by
11 2016.
- 12 5. Similarly, the province has established other policy initiatives intended to
13 accelerate the adoption of EVs and work toward the above commitments. Examples
14 include:
- 15 a) the carbon tax,
16 b) the low carbon fuel standard,
17 c) the Clean Energy Vehicle for British Columbia incentive programs, and
18 d) investments in public charging infrastructure throughout the province.

19 **2.2 City of Vancouver Actions Relating to Electric Vehicle Charging**

- 20 6. In 2016, City of Vancouver Council unanimously approved the Electric Vehicle
21 Ecosystem Strategy to guide the City’s work on electric vehicle infrastructure. In the

² [http://climateinitiativesplatform.org/index.php/International_Zero-Emission_Vehicle_Alliance_\(ZEV_Alliance\)](http://climateinitiativesplatform.org/index.php/International_Zero-Emission_Vehicle_Alliance_(ZEV_Alliance))

³ <http://pacificcoastcollaborative.org/Documents/Pacific%20Coast%20Climate%20Action%20Plan.pdf>

1 development of the Strategy, the City consulted with over fifty external organizations,
2 including the Provincial government.

3 7. The EV Ecosystem Strategy reflects the reality that the current market in British
4 Columbia has a limited business case for operating a stand-alone EV infrastructure
5 service. Given the small number of EV owners in British Columbia (~1% of vehicles), the
6 demand for EV charging is also small relative to the cost of installing and operating EV
7 charging stations. Further, only public utilities and local governments have the authority
8 to charge fees for EV charging service, so few other EV charging service providers would
9 see the charging service as a viable stand-alone investment. Currently, private EV
10 charging installations that offer service to the public are typically associated with a larger
11 business enterprise. Therefore, the City viewed the EV Ecosystem Strategy as a necessary
12 policy action to develop EV charging infrastructure to support the growth in the sales of
13 EVs.

14 8. The Strategy established a role for the City to use its regulatory authority and
15 spending power to improve the home, workplace, and public charging network, all to
16 enable a rapid transition to electric vehicles. The strategy identified the City as one of a
17 few participants in the sector capable of deploying and operating EV infrastructure as
18 stand-alone initiative to facilitate the growth of the early EV market.

19 9. Specific actions include:

20 a) Establishing EV-readiness requirements for new residential and
21 commercial developments. The current requirements are as follows.

Building type	EV-Readiness Requirement For New Construction
Single-family attached and detached	Each garage or carport
Multi-unit residential buildings	20% of parking stalls currently, and increasing to 100% January 1, 2019
Commercial buildings	10% of parking stalls

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- b) Creating a public charging network that will
 - i. support the next wave of EV adoption, which will include residents without access to home charging, fleet vehicles including car-sharing, and supporting EV tourism.
 - ii. expand the existing Level 2 charging network to all remaining City-owned, public-facing properties; and, the installation of DC Fast Charging stations throughout the city so a DC Fast Charger will be operating within a 10-minute drive of anywhere in Vancouver.
- c) For the City’s public network, user fees have been charged since November 2017 for the use of a charger service station to:
 - i. reflect the value of the service and encourage turnover of the space at congested stations,
 - ii. recover some of the capital and operating costs, and
 - iii. encourage EV drivers with access to home and/or workplace charging to choose those options when possible.
- d) Enabling residents to invest in curbside EV charging stations in front of their homes on City land through the Residential Curbside Pilot Project. In these cases, the charging stations are for the exclusive use of the resident installing them.
- e) Enabling businesses to invest in curbside EV charging stations in front of their businesses on City land through the Non-Residential Curbside Pilot Project. In these cases, the charging stations need to be publicly accessible and use of the stations is currently required to be free of charge (except for any parking fees).

- 1 f) Providing financial support to help residents of existing multi-unit
2 residential buildings, and commercial building managers to invest in EV
3 charging infrastructure in existing buildings that did not have adequate
4 charging capacity included when the building was constructed.
- 5 g) Providing preferential parking for zero emissions vehicles. This policy is
6 under development following Council direction in the Renewable City
7 Action Plan.

8 **3 RESPONSES TO BCUC QUESTIONS**

9
10 10. In its AES Inquiry decision, the Commission explained its approach to regulation
11 and the "key principles" as follows

- 12 a. Only regulate when required.
- 13 b. Regulation should not impede competitive markets.⁴

14 11. Later in the decision, the Commission elaborated further

15 Regulation exists to protect consumers against the abuse of monopoly
16 power but, in the Commission Panel's view, the superior protection for
17 consumers is the competitive marketplace. ... This is consistent with the
18 first principle outlined in this Section, to only regulate where required.
19 Competitive forces are generally accepted as providing societal benefits and
20 consumer protection more efficiently and effectively than economic
21 regulation.

22 Regulation is costly, time-consuming, and limited by informational
23 asymmetries. It is only in natural monopoly situations where consumer

⁴ BCUC Report, *FortisBC Energy Inc. ~ Inquiry into the Offering of Products and Services in Alternative Energy Solutions and Other New Initiatives*, December 2012, pages 6-7.

1 protection is needed that these limitations are outweighed by the benefits of
2 regulation.

3 Based on the above, the Commission Panel finds as a fundamental principle
4 that regulation is only appropriate where required and is driven by the
5 inability of competitive forces to operate with greater efficiency and
6 effectiveness than a sole service provider.⁵

7 12. These key principles and the Commission's comments on the role of public utility
8 regulation apply to the EV market. The City believes that economic and regulatory
9 barriers to the development of the EV market should be identified and removed. The
10 Commission has a role to play as the regulator of public utilities and the EV service
11 offered. So too is there a role for government policy to facilitate the development of the
12 market.

13 **3.1 Do EV charging stations operate in a competitive environment in BC or are**
14 **they a natural monopoly service?**

15 EV charging stations are not a natural monopoly service. Many market participants could
16 install and operate charging equipment to offer competitive options to EV owners.
17 However, the EV market is relatively new and there are challenges to reaching a mature,
18 competitive phase, including the challenge of achieving sufficient scale in EV sales to
19 support the charging infrastructure investment.

20 13. When assessing the potential for competition, it is helpful to consider the different
21 categories of EV charging installations – public, home and strata/landlord – separately, as
22 discussed below.

23 14. In all categories

24 i. For the EV charging service owner and operator,

⁵ *Ibid*, page 14.

- 1 a. the choice of EV charging infrastructure, equipment and
2 technical support would be competitive at the time of
3 purchase,
- 4 b. the choice of electricity supply to the EV charging
5 infrastructure would be limited to the existing electric utility
6 or on-site self-generation.
- 7 ii. For the EV charger user, the choice of EV charger service would
8 vary according to the category of charging service.

9 **a) Public Charging Stations**

10 15. This category includes EV charging stations that any EV owner can access on
11 public property, including on streets, in public parking areas, and at businesses that offer
12 parking for customers.

13 16. Public charging stations are well suited to competition, especially over the
14 medium to long-term if a mix of operators are allowed and encouraged to enter the
15 market.

16 17. The right to operate a charging service business within a municipality would be
17 regulated by the governing municipality. The right to operate a public utility – i.e. the
18 transmission and resale of electricity to the EV owner using the service – would be
19 regulated by the Commission under the UCA as a public utility, unless the EV charging
20 service is owned and operated by the municipality, in which case it would not fall within
21 the definition of public utility.

22 18. Within Vancouver, a mix of entities offer EV charging operations. The City of
23 Vancouver and BC Hydro operate infrastructure that users pay for. Tesla and various
24 retail malls, hotels, and other institutions offer public or semi-public access where there
25 is not currently a user fee.

1 **b) Homeowner Charging Stations**

2 19. This category includes charging stations operated by the homeowner at their
3 home and are not accessible to other users without the homeowner’s consent.

4 20. The homeowner would have a competitive choice for the charging equipment,
5 but would be captive to the electric distribution utility for the electricity supply unless
6 the homeowner had the opportunity for on-site generation.

7 21. This category of use would also not fall within the definition of “public utility”
8 under the UCA since there is no resale of electricity to a third party.

9 **c) Strata or Landlord Owned Charging Stations**

10 22. This category includes EV charging infrastructure owned and operated by an
11 intermediary such as a strata corporation in a multi-family or a mixed-use building or
12 landlord offering the service to a tenant. In some cases, the charging infrastructure would
13 be owned and operated by the strata owner or tenant, with permission of the strata
14 corporation or landlord, with some arrangement related to the fee related to the use of the
15 electricity for charging.

16 23. For strata corporations, the decisions related to the operation of such equipment
17 are subject to: 1) the strata governance rules under the *Strata Property Act*, or 2) the
18 landlord governance rules under the *Residential Tenancy Act*. Otherwise, the regulation
19 would be similar to that described for public charging (see paragraph 18 above).

20 24. The intermediary would have a competitive choice for the supplier of the EV
21 charging infrastructure, but would be captive to the electric distribution utility for the
22 electricity supply unless the homeowner had the opportunity for on-site generation.

23 25. For an EV owner living in a strata or a rental building, the owner will be captive
24 to the EV charging system and the related commercial arrangement established by the
25 respective strata corporation or landlord who are in a monopoly situation relative to the
26 building residents. If the EV owner is not satisfied with the rates being charged, the EV
27 owner’s recourse is either to

- 1 a) work to change the terms of service and rates those through strata or the
2 landlord/tenant governance process. This option would likely be
3 challenging when EV owners are a minority within a strata or rental
4 building and have little market power, or
- 5 b) complain to the Commission under the UCA that the terms and conditions
6 of the “public utility” are unfair or unreasonable.

7 26. Currently, the BC Hydro tariff prohibits resale by a landlord to the strata owner
8 or tenant at a marked-up rate. The City understands BC Hydro is reviewing its Electric
9 Tariff to assess whether EV charging service requires new terms and conditions for service
10 to avoid restrictions of marking up the resale of electricity. Strata corporations and
11 landlords should be allowed to charge a reasonable mark-up to recover their investment
12 in EV charging infrastructure and their operating costs.

13 **3.2 Are the customers of EV charging stations captive or do they have a choice?**

14 27. As described in the last section, EV vehicle owners are not captive to any one EV
15 charging service provider in theory since the EV vehicle owner can drive to a variety of
16 charging station options. Even in a strata or rental building, the EV vehicle owner may
17 choose to charge at an external EV charging station. However, due to the inconvenience
18 of charging outside of an EV owner’s residence, the theoretical choice has practical limits.
19 Since the EV charging service market is new, the competitive choices are not abundant in
20 all cases or not always available when needed by an EV owner seeking to charge a vehicle.

21 28. The City expects home charging to be the dominant mode of charging for most
22 EV owners because of the convenience. If the economics compel an EV owner to charge
23 on a public network as the primary means of charging the EV, then this inconvenient
24 circumstance would be a strong deterrent to EV ownership.

25 29. Several economic and regulatory entry barriers hamper the broader deployment of
26 public EV infrastructure. Many businesses have expressed interest in running EV
27 infrastructure, but the inability to recover costs has prevented such expansions.

1 30. When the City introduced fees on our public EV charging infrastructure in
2 November 2017, we experienced a drop in the use of our charging stations, which
3 indicates that EV owners were able to find other options – home charging or other public
4 stations that cost less.

5 31. At the same time, many users have continued to use the public network at a cost
6 that is higher than home charging would be, indicating that they don't currently have
7 access to those options. If the public network grows to include a greater diversity of EV
8 charging operators, greater choices would be available even for EV users without access
9 to adequate home charging.

10 32. The convenience of home charging is important enough to the viability of mass
11 EV adoption that the City believes any regulation of the EV charging service should
12 ensure that rates for electricity supply for home charging are reasonable and support EV
13 adoption.

14 **3.3 Should the Commission regulate the services provided by EV charging**
15 **stations? What are benefits and detriments to such regulation?**

16 33. There are two aspects related to regulation to consider: 1) public safety of the EV
17 charging equipment and operation, and 2) economic regulation of the EV charging terms
18 of service and rates.

19 34. The safety of EV charging stations must be regulated. This regulatory oversight is
20 critical from the perspective of avoiding personal injuries or death and/or property
21 damage. Similarly, a safety incident at an EV charging station will rightly raise concerns
22 about the technology and hinder the adoption of EVs.

23 35. The economic regulation of the terms of service and rates is a more complex issue.
24 As noted earlier, the City believes the EV charging market has the potential to be
25 competitive. Any regulatory approach should be designed to facilitate that outcome.

26 36. In general, the Commission should forbear from regulating the service providers
27 to the extent the market conditions allow, but remain available to resolve disputes on a
28 complaint basis. The Commission should adjust its approach to regulation based on the

1 different categories of EV charging service, based on the extent to which the EV owner
2 or user has access to competitive alternatives.

3 37. While this emerging market grows, the Commission will have a role to play to
4 ensure EV owners have recourse to resolve complaints when EV charging service
5 providers are able to exert undue market power in segments of the market where service
6 options are limited.

7 38. The City also believes that the Commission or Province should offer guidance,
8 and potentially regulation, on the reliability of EV charging stations so users of the
9 infrastructure, and potential future users, have confidence in its ability to provide the level
10 of service people have come to expect with gasoline and diesel fueling. As with other
11 new and emerging technologies, a bad experience with the reliability of charging
12 infrastructure can be a deterrent to peoples' willingness to adopt EVs.

13 39. For the terms of service and rates for EV charging service, the Commission should
14 let the market decide where EV owners have competitive choices – particularly in the
15 public charging service sector. The market will respond and innovate to offer a variety of
16 options when competition is allowed to flourish. For other situations where competitive
17 choices are constrained, such as in the strata or landlord owned EV charging service
18 categories, the Commission should regulate on a complaint-basis, as it does under the TES
19 Guidelines for thermal energy services.

20 40. EV charging service providers must be able to charge rates that are reasonable to
21 their investment.

22 41. The administrative burden and cost of public utility regulation can overwhelm the
23 economic viability of EV charging service operations, which in many cases will be small
24 to medium size enterprises. The Commission should develop streamlined and generic
25 approaches that can be applied simply.

26 42. For home and workplace charging, where no practical alternative is available,
27 some simple guidelines on terms of service and pricing for EV charging systems would
28 be helpful.

1 43. While beyond the mandate of the Commission, we see value in the Provincial
2 government offering guidance on

3 a) the density of public charging that will be needed to support the province's
4 climate change and EV objectives.

5 b) how the network should respond to support the growing number of EVs in
6 the province that are using the public network.

7 44. Any guidance on station density and availability should account for the

8 a) different needs in rural and urban areas and for longer driving distances

9 b) growing network of home charging stations that will likely be the
10 predominant mode of charging for most users.

11 **3.4 Should the rate design of EV charging stations be established under a public**
12 **utility's traditional cost of service model or some other model? And within**
13 **that context, what are the customer pricing options (e.g. energy-based rate vs.**
14 **time-based rate)?**

15 45. Where the market segment is competitive, the Commission should forbear from
16 regulation and let the market set the terms and price for service. This approach will allow
17 for flexibility and responsiveness in the service offerings.

18 46. For market segments where competitive alternatives are constrained, the
19 traditional cost of service model is a reasonable proxy for a competitive model. The
20 Commission could establish this traditional approach as the default approach since it has
21 been proven effective in setting just and reasonable rates for public utilities in a variety of
22 situations for many years. The Commission should also leave open the possibility of other
23 pricing options that may be proposed as an alternative to the traditional cost of service
24 model default position. The goal should be to allow innovation and foster greater adoption
25 to support the growth of the market.

1 47. For example, the City has chosen to set time-based rates to keep them simple, and
2 aligned with our parking rates. We have also decided to allow those rates to vary from
3 station to station depending on how busy it is – if a station is under-utilized, we will reduce
4 the rate and if it is over-utilized, we will increase the rate. Most feedback we received
5 from stakeholders was supportive of this direction, although some EV users have been
6 critical of any rates and some would have preferred an energy-based rate.

7 **3.5 Should the EV charging station service rate be based on a public utility's**
8 **existing wholesale or commercial retail rate or some other rate?**

9 48. For the supply of electricity to stand-alone EV charging service, the rate should
10 align with the load characteristics and reflect the cost and effort of providing the service.
11 The City is not in a position to comment on whether existing wholesale or commercial
12 rates are appropriate.

13 49. For the supply of electricity to EV charging service installed at residences, strata
14 corporations, and multi-use commercial buildings, the EV charging supply would be
15 embedded in the existing rate for that customer.

16 50. In all cases, the public utility terms of service and rates should be designed to
17 support the provincial policy objectives and encourage the development of EV
18 infrastructure development and EV vehicle use in preference to fossil fuel vehicles.

19 **3.6 Should public utilities include EV charging stations in their regulated rate**
20 **base or through a separate nonregulated entity?**

21 51. The City's overarching goal is to see the EV and EV charging market expand in
22 line with the province's climate change objectives and in an economically efficient
23 manner. The City supports a robust and competitive market with a diverse range of EV
24 charging services and operators to give EV owners competitive options.

25 52. The City sees a role for traditional electric utilities as an EV charging service
26 provider in this market so long as that role does not impede the entry and growth of other
27 competitive participants in the market.

1 53. In the AES Decision, the Commission reviewed the issue of how existing public
2 utilities should participate in the emerging and competitive AES market. The Commission
3 decided that public utilities could participate, but must do so on an equal footing with
4 other market participants. The goal was to allow fair competition, which a goal the City
5 supports.

6 54. To assess how the principles and regulatory framework the Commission
7 established for the AES market might apply to the EV would require a more detailed
8 review.

9 **3.7 If public utilities provide EV charging services within their regulated business,**
10 **is there a risk of cross subsidization from other rate classes to support this new**
11 **service and if so, is the proposed rate design potentially unduly**
12 **discriminatory?**

13 55. Yes, there is a risk of cross subsidization.

14 56. The Commission reviewed the cross subsidization risk in the AES Decision, and
15 many of the same considerations would apply to the EV market.

16 57. The City is not in a position to comment at this stage of the Inquiry to comment
17 on the rate design other than the general comments the City has offered on ensuring that
18 the rate design allows the EV market to develop efficiently and promotes fair competition
19 among service providers.

20 **3.8 Any other matters that may assist in the effective and efficient review of the**
21 **Inquiry**

22 58. The City is concerned that several elements of BC Hydro's current rate structure
23 may impede the development of the EV charging infrastructure. The City supports the
24 use of public utility rates as a tool to encourage energy efficiency, but we think those
25 signals should be aligned with the Province's climate change objectives related to EV
26 vehicles as well.

1 59. Examples include:

2 a) The current tiered residential rate structure creates an unintended distinctive
3 for switching to EVs because residents that are using electricity efficiently
4 can still consistently be bumped into the Tier 2 rate. This challenge is
5 exacerbated in homes that are using heat-pumps, which is another energy-
6 efficient technology that the provincial government is rightly encouraging
7 people to use to reduce their carbon pollution.

8 b) The current residential rate structures don't provide any incentive to shift
9 demands to off-peak time, which is a missed opportunity for BC Hydro to
10 avoid the costs associated with increasing capacity. EVs are a particularly
11 good opportunity where the timing of a demand is relatively flexible. For
12 home charging, a typical time for an EV user to begin their charge would
13 be when they get home around 6pm, which coincides with the current
14 system peaks. However, with rate signals such as time of use pricing, EV
15 users could be encouraged to delay the start of their charge until later in the
16 evening, which would still allow them to return to a full charge while saving
17 themselves and the system money.

18 **4 OTHER CONSIDERATIONS**

19 **4.1 Other Important Barriers to Electric Vehicle Adoption**

20 60. While this Inquiry and the questions posed by the Commission are timely and
21 important for the future of EV adoption in British Columbia, the City also wants to
22 highlight three important barriers that will need to be resolved by the federal, provincial,
23 and/or local governments.

24 a) The availability of EVs is very limited in the province, making it difficult
25 for potential EV owners to experience them. For example, based on a
26 November 2017 City of Vancouver survey, only 30% of 27 Vancouver
27 dealerships had a new ZEV that could be test driven and purchased. Given
28 Vancouver has the highest uptake of ZEVs in the province, availability in

- 1 other parts of BC is likely lower. While early adopters of electric vehicles
2 are prepared to pay deposits and wait months to test drive a new car, most
3 people are not.
- 4 b) The British Columbia government is well positioned to resolve the supply-
5 side barrier by implementing a Zero Emission Vehicle mandate. This
6 legislation sets a minimum percentage of ZEVs that vehicle manufacturers
7 have to sell in the province, with that percentage increasing over time. In
8 Canada, Quebec has a Zero Emission Vehicle mandate (2018 is the first
9 compliance year), and California and nine other states have also established
10 supply-side mandates.
- 11 c) As discussed earlier, the City anticipates that most EV drivers will choose
12 to charge their vehicles at home most of the time due to the convenience.
13 For new buildings, it is relatively straightforward to require EV-readiness
14 in new parking stalls, and many cities in BC already have, or are in the
15 process of developing, EV-readiness standards for new construction.
16 Existing buildings are a greater challenge in part because of the economics,
17 and also because of the complications of navigating strata processes in
18 multi-unit residential buildings. Currently, strata corporations have the
19 ability to block the installation of EV charging, even when a strata members
20 is willing to cover all of the costs.
- 21 d) This barrier can be resolved through what are referred to as ‘Right to
22 Charge’ rules. These rules prevent strata corporations from unreasonably
23 blocking the installation of EV charging in cases where the strata member
24 is willing to pay for the equipment and installation. California is an early
25 leader in this policy space in North America and Ontario is also in the
26 process of developing Right to Charge rules.
- 27 e) The cost of EVs continues to decline (particularly because of declining
28 battery costs), but they are still more expensive than their internal
29 combustion counterparts are. The City sees an important role for

1 governments to continue narrowing this economic gap until EVs reach
2 price-parity with internal combustion vehicles, which is expected in the
3 early to mid-2020s. Examples of the types of policies that can help achieve
4 these outcomes are the province's Clean Energy Vehicle incentive
5 programs, the British Columbia carbon tax and the Low Carbon Fuel
6 Standard.

7 61. The City recognizes the Commission mandate is limited to the regulation of public
8 utilities under the UCA, and therefore does not have a mandate related to resolving the
9 EV barriers described in the preceding paragraph. However, the Commission should be
10 informed on the overall competitive context of the EV market to understand the
11 implications of the public utility regulation aspects of the EV market.

12 **5 CONCLUSION**

13 62. The City wishes to see the EV market develop rapidly and efficiently. To that end,
14 the City is an active participant in developing the EV infrastructure market, as part of the
15 City's Electric Vehicle Ecosystem Strategy.

16 63. The City's comments in this submission focus on the higher-level policies and
17 approaches to developing the EV market infrastructure. At this stage in the Inquiry, the
18 City is not in a position to comment on specific rate design proposals or the details of the
19 regulatory framework to apply to EV charging service providers.

20 64. At a higher level, the City supports a regulatory approach that removes barriers to
21 the growth of the EV market and facilitates the development of a robust, competitive
22 market with many participants.

23 All of which is respectfully submitted on behalf of the City of Vancouver.

24
25 Matt Horne

26 City of Vancouver

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