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British Columbia Utilities Commission

An Inquiry into the Regulation of Electric Vehicle Charging Service

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# REPORT

## PHASE 1

November 26, 2018

Before:

D. M. Morton, Panel Chair  
A. K. Fung, QC, Commissioner  
H. G. Harowitz, Commissioner

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## Executive summary

By Order G-10-18 dated January 12, 2018, the British Columbia Utilities Commission (BCUC) established an inquiry to review the regulation of electric vehicle charging service in British Columbia (Inquiry). The Inquiry aims to explore the potential regulatory issues, including the level of regulation necessary in the electric vehicle (EV) charging services market, the rates for EV charging service, and any other matters that should be considered by the BCUC as the regulator of energy services provided by public utilities in British Columbia.

The BCUC held ten Community Input Sessions at 8 different locations where the Panel heard from a range of British Columbians: the business community, EV charging service providers, municipalities who currently offer EV charging service, government organizations, owners of EVs, existing public utilities, and members of the general public. Thirty three registered interveners participated in this Inquiry, the majority of whom submitted evidence, responded to information requests by the BCUC and other parties, and provided final and reply arguments. There were also fifty one interested parties and the BCUC received twenty letters of comment.

On July 4, 2018, the Panel determined that a phased approach would be most appropriate way forward, with the first phase of the Inquiry to address the following issues:

- Do the words “for compensation” in the definition of public utility mean that a person who does not expressly require customers to pay for charging services but instead recovers the cost of charging from other services provided to the customers is a “public utility”?
- Should entities not otherwise public utilities supplying electricity to EV end users be regulated at all?

Further, the Panel stated that inasmuch as public utilities such as British Columbia Hydro and Power Authority (BC Hydro) and FortisBC Inc. (FBC) wish to participate in the EV market as owners or operators of EV charging stations, clarity is needed on whether BC Hydro and FBC are permitted to invest in EV charging stations as a prescribed undertaking under section 18 of the *Clean Energy Act* and section 4 of the Greenhouse Gas Reduction Regulation (GGRR). The Panel sought submissions from participants on these issues.

This report (Report) provides the findings made by the Panel in the first phase and lays out the issues to be addressed in the second phase.

After reviewing the evidence and submissions received, the Panel made the following key findings and recommendations:

1. The EV charging market is not a monopoly because there is more than one service provider, and that the public EV charging market does not exhibit monopoly characteristics.
2. The EV charging market in the rental and strata buildings sector does not exhibit monopoly characteristics.
3. A person providing EV charging services for compensation is a public utility. The broad definition of “compensation” in the UCA encompasses many forms of direct and indirect compensation.
4. The regulation of all EV charging services, to the extent that the provider is not already considered to be a public utility under the UCA, is either not required or not within our jurisdiction. Therefore, we recommend that the Minister issue an exemption, with respect to EV charging services, from Part 3 of

the UCA, sections 21 to 64 inclusive with the exception of sections 25 and 38, with respect to safety only for those EV charging service providers that are not already a public utility under the UCA.

5. We recommend that a landlord or a strata corporation that is otherwise a public utility, be granted an exemption, on the same terms and conditions as the exemption laid out above, pertaining to owning and/or operating an EV charging service.

In addition to the above key findings and recommendations, the Panel laid out the issues it wishes to canvass in Phase 2.

1. Can participation of providers under both regulatory models – little or no regulation for those not otherwise public utilities and regulated public utilities – co-exist? In the absence of price regulation, how can exempt EV charging providers be protected from being undercut by non-exempt public utilities? Should the non-exempt public utilities be restricted to participate only in remote geographical locations that are currently uneconomical for exempt EV charging providers to serve?
2. If the provision of EV charging is exempt from regulation, is there any justification for non-exempt public utilities to provide EV charging services? If the role of non-exempt public utilities is to kick start the market, how can the BCUC determine when the kick start is no longer needed? What is the role of those utilities once that kick start is completed? If there are stranded assets at that time how should they be dealt with?
3. If non-exempt public utilities participate in the EV charging market, should EV charging customers constitute a separate class from which costs associated with EV charging infrastructure is recovered? Or should the service be offered in a separate non-regulated business? What are the implications of each of these regulatory models?
4. Should other customer classes subsidize costs associated with the provision of charging services that can't be recovered from EV charging customers? How much of the cost is it appropriate for them to subsidize – should there be a cap?
5. If assets are stranded as a result of changing technology or other factors, who should pay for the potential stranded EV charging assets which may be in the non-exempt public utility's rate base?
6. In the context of BCUC economic regulation, what regulatory justification is required to allow non-exempt utilities to cross subsidize EV charging services. If EV charging adds incremental load, does that justify cross-subsidization? Would the incremental load appear without the subsidization?
7. What are the implications of the province's energy objectives, as stated in the *Clean Energy Act*, with respect to non-exempt public utilities providing potentially subsidized EV charging services? Are there non-economic justifications such as environmental benefits or meeting greenhouse gas (GHG) reduction targets?
8. If non-exempt public utilities participate in the EV charging market, do they have any obligation to serve EV charging customers?
9. Should non-exempt public utilities be provided the same exemptions in regard to EV charging services as are other EV charging market participants. This includes exemption from Part 3 of the UCA, with similar retentions of certain sections by the BCUC.
10. Is EV charging infrastructure considered "distribution of electrical energy" for the purpose of section 3(1) of the Electrical Safety Regulation. In responding, Interveners are requested to consider the status of the provider – for example, is the interpretation different for a non-exempt public utility than it would be for an exempt utility or a provider excluded from the definition of a public utility?
11. Any other comments that may be helpful to the Panel.

In addition, the Panel will review the issue of the wholesale rate paid by EV charging service providers. Therefore, in Phase 2, the Panel invites submissions from interveners on the following:

1. Is there a need for a specific tariff provisions for the wholesale provision of electricity for the purpose of EV charging?
2. If so, how should this wholesale tariff be designed? Is a time of use rate appropriate? Should there be any differences depending on the type of EV charging – Level 1, Level 2, and/or DCFC stations?

The Panel also considered whether public utilities, such as BC Hydro and FBC, are permitted to invest in EV charging stations as a prescribed undertaking under section 18 of the *Clean Energy Act* and section 4 of the GRR. The Panel concluded whether a specific application qualifies as a pilot project should properly be determined by the BCUC, based on the merits of the particular application including the proposed scale and term of such project. However, in Phase 2, the Panel invites submissions from interveners on whether amendments to the GRR to allow public utilities to own and operate EV charging stations as a “prescribed undertaking” are appropriate and if so, the appropriate extent and scope of such undertaking.

The Panel reminds all regulated utilities that until further notice the existing provisions of the UCA, including any applicable CPCN guidelines and rate setting applications remain in effect. The Panel requests that applications related to EV charging services to include the utility’s EV charging service long term plan, rates, rate base forecasts, system reinforcements, system reliability, and safety.

## 1.0 Introduction

The British Columbia Utilities Commission (BCUC) is an independent regulatory agency of the Government of British Columbia that is responsible for regulating BC's energy utilities, the Insurance Corporation of BC's compulsory automobile insurance rates, intra-provincial pipelines, and the reliability of the electrical transmission grid. Our jurisdiction and authority are primarily legislated under the *Utilities Commission Act (UCA)* and the *Clean Energy Act*. We have the responsibility to ensure that British Columbians receive safe, reliable energy services at fair rates that are just, reasonable and not unduly discriminatory, while ensuring the entities that we regulate have the opportunity to earn a fair return on their capital investments. The BCUC is established as the sole independent regulator for energy services provided by public utilities in BC.

The BCUC received numerous queries over the past few years with regards to the scale and scope of the regulation of the electric vehicle (EV) charging service in BC. There are many different interpretations and opinions on these issues from the business community, EV charging service providers, municipalities that currently offer EV charging service, government organizations, owners of EVs, existing public utilities, and members of the general public.

On December 22, 2017, the BCUC received an application from FortisBC Inc. (FBC) seeking approval of the rate design and rates for EV charging service as part of the Accelerate Kootenays project. FBC had installed and owns five Direct Current Fast Charging (DCFC) stations located along the Highway 3 corridor in Greenwood, Christina Lake, Castlegar, Salmo and Creston, BC. FBC submitted that the DCFC stations are a pilot project for FBC to own and operate EV fast charging technology for the first time.

On January 12, 2018, relating to FBC's EV charging service application, the BCUC indicated that the rates and rate design for EV charging, including the services provided by EV charging stations, are currently in an early development stage in BC and other entities may emerge over time. The BCUC reviewed FBC's application and approved a time-based rate of \$9.00 per 30-minute period on an interim basis with the caveat that FBC track costs associated with the EV charging stations and exclude such costs from its utility rate base until a more comprehensive regulatory review process takes place.<sup>1</sup> The BCUC found that there are merits for a general inquiry to explore the potential regulatory issues in the EV charging stations market which may have broader stakeholder impacts.

By Order G-10-18, the BCUC established an Inquiry to review the regulation of electric vehicle charging service in BC (Inquiry). This Inquiry aims to explore the potential regulatory issues, including the level of regulation necessary in the EV charging services market, the rates for EV charging service, and any other matters that should be considered by the BCUC, as the regulator for energy services provided by public utilities in BC.

To provide context to the matters that may be reviewed in the Inquiry, the BCUC provided a list of preliminary regulatory scope issues:<sup>2</sup>

1. Do EV charging stations operate in a competitive environment in BC or are they a natural monopoly service?

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<sup>1</sup> Order G-9-18.

<sup>2</sup> Exhibit A-1, cover letter; Exhibit A-2, Appendix B.

2. Are the customers of EV charging stations captive or do they have a choice?
3. Should the BCUC regulate the services provided by EV charging stations? What are benefits and detriments to such regulation?
4. Should the rate design of EV charging stations be established under a public utility's traditional cost of service model or some other model? And within that context, what are the customer pricing options (e.g. energy-based rate vs. time-based rate)?
5. Should the EV charging station service rate be based on a public utility's existing wholesale or commercial retail rate or some other rate?
6. Should public utilities include EV charging stations in their regulated rate base or through a separate non-regulated entity?
7. If public utilities provide EV charging services within their regulated business, is there a risk of cross subsidization from other rate classes to support this new service and if so, is the proposed rate design potentially unduly discriminatory?

The BCUC also invited submissions from interveners on any other matters that may assist the Panel.

## 2.0 Inquiry overview

### 2.1 Regulatory process and public consultation

The BCUC held a series of Community Input Sessions throughout BC which provided an opportunity for the public to speak directly to the Panel for the Inquiry.<sup>3</sup> Members of the public were invited to voice their comments on the issues raised in the Inquiry and effectively allowed the BCUC to gather public input for consideration on the matters that are within the scope of this Inquiry.

#### *Interveners*

In accordance with Order G-19-18, the following parties registered as interveners in the Inquiry:

- British Columbia Hydro and Power Authority (BC Hydro);
- British Columbia Ministry of Energy, Mines and Petroleum Resources (MEMPR);
- Clean Energy Association of British Columbia (CEABC);
- AddÉnergie Technologies Inc. (ATI);
- LeadingAhead Energy Inc. (LAE) (formerly Drive Energy Inc. (DEI));
- British Columbia Old Age Pensioners' Organization, Active Support Against Poverty, Disability Alliance BC, Council of Senior Citizens' Organizations of BC, Tenants Resource and Advisory Centre, and Together Against Poverty Society (BCOAPO);

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<sup>3</sup> Between March 5, 2018 and April 16, 2018, we held community input sessions in Kamloops, Kelowna, Prince George, Fort St. John, Castlegar, Victoria, Nanaimo and Vancouver.



- Flintoff, Donald (Flintoff);
- City of Vancouver (CoV);
- BC Sustainable Energy Association and Sierra Club BC (BCSEA);
- New Car Dealers of BC (NCDDBC);
- ReCharged Technologies Inc. (Recharged);
- Urban Development Institute (UDI);
- Wesgroup Properties Limited Partnership (WPLP);
- Nelson Hydro on behalf of the BCMEU (BCMEU);
- FortisBC Inc. (FBC);
- FortisBC Energy Inc. (FEI);
- Vanport Sterilizers Inc. (VSI);
- Greenlots (Greenlots);
- Guthrie, Gary (Guthrie);
- Autochargers.ca (Autochargers);
- Fraser Basin Council/Plug In BC (FBCPIBC)
- BC Scrap-IT Society (BCSIS);
- BrightSide Solutions Inc. (BSSI);
- Commercial Energy Consumers Association of British Columbia (CEC);
- ChargePoint (ChargePoint);
- Electrical Contractors Association of British Columbia (ECABC);
- Tesla Motors Canada ULC (Tesla);
- Vancouver Electric Vehicle Association (VEVA);
- Alectra Utilities Inc. (AUI);
- Mackenzie, Bruce (Mackenzie);
- Cypress Power Ltd. (CPL);
- Community Energy Association (CEA); and
- Victoria Electric Vehicle Association (Victoria EVA).

In addition to the 33 registered interveners, the BCUC received 51 interested parties and 20 letters of comment from members of the public. The Panel acknowledges the contributions made by all participants in the Inquiry, in particular for those who attended the Community Input Sessions. We considered all comments in making our findings and recommendations as set out in this Report.

### *Regulatory timetable and scope*

In addition to the ten Community Input Sessions, between March and June 2018, interveners submitted written evidence on the preliminary scope items, followed by one round of information requests and responses. On June 27, 2018, the BCUC held a procedural conference<sup>4</sup> to address various procedural issues, including the appropriate scope of the Inquiry, whether the existing evidentiary record was adequate for the Panel's report, the appropriate regulatory process, the timeline of any subsequent process, and whether any other procedural or scope matters should be considered.

We heard from interveners that investment and policy decisions are currently at play and they urged the BCUC to expedite the review process by prioritizing important issues in the near term. The Panel agreed, and determined that a phased approach would be most appropriate at this time, with the first phase of the Inquiry to address the following issues:

- Do the words "for compensation" in the definition of public utility in the UCA mean that a person who does not expressly require customers to pay for charging services but instead recovers the cost of charging from other services provided to the customers is a "public utility"?
- Should entities not otherwise public utilities supplying electricity to EV end users be regulated at all?

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<sup>4</sup> Pursuant to the regulatory timetable established by Order G-96-18 dated May 18, 2018.

- Inasmuch as public utilities such as BC Hydro and FBC wish to participate in the EV market as owners or operators of EV charging stations, clarity is needed on whether BC Hydro and FBC are permitted to invest in EV charging stations as a prescribed undertaking under section 18 of the *Clean Energy Act* and section 4 of the GRR.<sup>5</sup>

Following the procedural conference, the BCUC issued Order G-119-18 with reasons and amended the regulatory timetable, which included intervenor final and reply arguments on re-scoped Phase 1 issues, and proposals for issuance of a phase one report with further process for Phase 2 to be determined.

## 2.2 Regulatory and Policy framework in BC

### 2.2.1 Regulatory framework

The definition of “public utility” in the UCA broadly includes many forms of energy services, if provided for compensation. The BCUC in its letter dated January 23, 2018,<sup>6</sup> referenced its 2012 Report on the Inquiry into the Offering of Products and Services in Alternative Energy Solutions and Other New Initiatives (AES Inquiry) for regulated public utilities which provide products and services outside traditional utility activities.<sup>7</sup> The BCUC established principles in the AES Inquiry whereby the BCUC should only regulate where necessary, and regulation should not impede competitive markets. In the January 23, 2018 letter, the Panel indicated that it intends to adopt these key principles in this EV Inquiry.

#### *The AES Inquiry*

The AES Inquiry Report<sup>8</sup> outlines two key principles related to the role of regulation, specifically:<sup>9</sup>

- i. Where regulation is required use the least amount of regulation needed to protect the ratepayer; and
- ii. The benefits of regulation should outweigh the costs of regulation.

In the AES Inquiry Report, the BCUC found that in general, a provider of services which meets the definition of a public utility in the UCA, and where natural monopoly characteristics are present and consumers require protection, should be subject to regulation.<sup>10</sup>

The AES Inquiry Report further lays out guidelines related to these two key principles. In particular the form of regulation should:

- provide adequate customer protection in a cost-effective manner;
- consider administrative efficiency;
- consider the level of expenditure, the number of customers, the sophistication of the parties involved and the track record of the utility in undertaking similar projects; and

<sup>5</sup> Order G-119-18, Appendix A, p. 7.

<sup>6</sup> Exhibit A-2.

<sup>7</sup> Proceeding webpage: <https://www.bcuc.com/ApplicationView.aspx?ApplicationId=309>

<sup>8</sup> The AES Inquiry Report: [https://www.bcuc.com/Documents/Decisions/2012/DOC\\_33023\\_G-201-12\\_FEI-AES-Inquiry-Report\\_WEB.pdf](https://www.bcuc.com/Documents/Decisions/2012/DOC_33023_G-201-12_FEI-AES-Inquiry-Report_WEB.pdf)

<sup>9</sup> The AES Inquiry Report, pp. 6–7.

<sup>10</sup> The AES Inquiry Report, p. 15.

- require the provision of sufficient information to allow the BCUC to assess the new business activity, and any rates to be set, against BC's Energy Objectives and the requirements of the UCA and the *Clean Energy Act*.<sup>11</sup>

Many interveners in the EV Inquiry recognized and considered the AES Inquiry principles as guidance in their submissions.<sup>12</sup> The AES Inquiry issues applicable in this Inquiry include forms of regulation in competitive markets, cost recovery, cross subsidization, participation of existing public utilities in a non-traditional market, and cost of regulation.

### *Thermal Energy Systems (TES) regulatory framework for Strata Corporations*

Following the AES Inquiry, in August 2013, the BCUC held a public proceeding to develop the TES Guidelines.<sup>13</sup> A TES consists of equipment or facilities for the production, generation, storage, transmission, sale, delivery or provision of any agent for the production of heat or cold. Generally speaking, it provides thermal energy services (heat, hot water or cooling) from one or more thermal energy sources and delivered through a distribution system. Energy sources may include waste heat, renewable (solar, ground/water source or air source heat pumps, geothermal, biomass etc.) as well as non-renewable energy sources. A TES may include plant, equipment, distribution piping, apparatus, property and facilities employed by or in connection with the provision of thermal energy services.<sup>14</sup>

A TES owned by a Strata Corporation that exclusively serves that Strata Corporation's Strata Unit Owners is exempt from active regulation by Order G-120-14. As outlined in Order G-120-14, the exemption from Part 3 of the UCA excludes section 42, 43 and 44. A Strata Corporation that owns the TES and provides energy exclusively to its Strata Unit Owners<sup>15</sup> is subject to the *Strata Property Act*, which offers recourse and consumer protection to Strata Unit Owners. Accordingly, customers can find recourse under the *Strata Property Act*, and not through the BCUC under the UCA. This exemption does not include a TES with a customer that is a Strata Corporation.<sup>16</sup>

### *Retail markets downstream of the utility meter (RMDM) Guidelines*

The EV Inquiry also explored the relevancy and applicability of the BCUC's RMDM Guidelines. These guidelines, established in April 1997,<sup>17</sup> considered the BCUC's role in a competitive market. Page 3 of the RMDM Guidelines states:

In general, the total range of goods and services potentially provided by energy utilities can be categorized as belonging to one of three areas... These areas are: goods and services which still clearly are defined as core monopoly products (e.g., wires and pipes), competitive products which could best be produced by a variety of players operating within a competitive market (e.g., appliance sales), and debatable/transitional products, i.e., those which are associated with the monopoly core and which may or may not be considered true monopoly activities

<sup>11</sup> The AES Inquiry Report, p. 18.

<sup>12</sup> Exhibit C1-2, BC Hydro evidence, pp. 1, 12, 15–16; Exhibit C4-2, Flintoff evidence, p. 5; Exhibit C5-2, CoV evidence, pp. 1, 7, 16; Exhibit C6-2, BCSEA evidence, pp. 6, 8–9; Exhibit C25-2, ChargePoint evidence, pp. 7–15, 19.

<sup>13</sup> Order G-132-13, <https://www.ordersdecisions.bcuc.com/bcuc/orders/en/118726/1/document.dom>

<sup>14</sup> Order G-127-14, Appendix A, p. 1

<https://www.ordersdecisions.bcuc.com/bcuc/orders/en/item/119083/index.do?r=AAAAAQAKdGVzIHNo0cmFOYQE>

<sup>15</sup> A Strata Unit Owner is an owner of a unit that is part of a Strata Corporation.

<sup>16</sup> Order G-127-14, Appendix A, pp. 3, 6

<sup>17</sup> Retail Markets Downstream of the Utility Meter Guidelines, dated April 1997:

<https://www.bcuc.com/Documents/Guidelines/RMDMGuidelns.pdf>

depending on one's assessment at any given time (e.g., billing/meter information). For example, these products might be provided by the utility as they emerge, later be produced by a mix of utility and unregulated providers as the market grows and eventually be provided solely by the competitive market when the market is mature (e.g., natural gas vehicle conversions). Core monopoly products result primarily from economies of scale or scope and are expected to decrease as a result of advances in technology reducing these economies, competitors' demands for access to the market for these products, customers' demands for more choice and the success of deregulation elsewhere. [Emphasis added]

### *Recent exemption – Bakerview EcoDairy*

Bakerview EcoDairy Ltd.'s EV charging station is currently the only EV charging station that has been granted an exemption from BCUC regulation.<sup>18,19</sup> As noted in BCUC Order G-71-16, subsequent to a public review process, Bakerview EcoDairy's DCFC station in Abbotsford is operating as a reseller of electricity to the public for compensation as a public utility as defined by the UCA because it levies a \$0.35 per kilowatt-hour fee for the provision of EV charging services to the public.

Bakerview EcoDairy is exempted from Part 3 of the UCA, except for sections 25, 38, 42, 43, 44, and 49 of the UCA, for the resale of electricity via its DCFC station. The exemption will remain in effect until either the lease agreement between Bakerview EcoDairy and BC Hydro ends, or by order of the BCUC. Section 38 of the UCA requires Bakerview EcoDairy to operate and maintain its facilities to ensure safe, reliable and adequate service.

### **2.2.2 Policy framework**

There have been a number of policy initiatives relevant to EVs and the EV charging market. BC's Climate Leadership Plan notes that the transportation sector is a significant source of our emissions, which accounts for 37 percent of BC's total emissions. Light duty vehicles account for 14 percent of BC's total emissions.<sup>20</sup> The action plan includes expanding support for zero emission vehicle charging stations in buildings and expanding the Clean Energy Vehicle Program to support new vehicle incentives and infrastructure.<sup>21</sup> The Climate Leadership Plan also notes that one major challenge for the adoption of EVs is ensuring that owners can access charging stations.<sup>22</sup> Many participants recognize the policies related to GHG emissions reduction and deployment of EVs and charging infrastructure.

The Government of BC promotes the uptake of zero emission vehicles, including battery-electric, plug-in hybrid, and fuel cell vehicles. BC's Clean Energy Vehicle Program includes point-of-sale incentives for electric and hydrogen vehicles, investments in charging and fuelling infrastructure, additional support for fleets to adopt zero emission vehicles, and investments in research, training and outreach. The Clean Energy Vehicle Program vision is to stimulate the transportation market such that, by 2020, 5 percent of new light duty vehicle purchases in BC are zero emission vehicles.<sup>23</sup>

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<sup>18</sup> Bakerview EcoDairy was granted an exemption from Part 3 of the UCA pursuant to BCUC Order G-71-16 and is therefore able to resell energy on that basis.

<sup>19</sup> Exhibit C12-2, FBC evidence, p. 9; Exhibit C6-2, BCSEA evidence, p. 12.

<sup>20</sup> BC's Climate Leadership Plan dated August 2016, p. 14. [https://www2.gov.bc.ca/assets/gov/environment/climate-change/action/clp/clp\\_booklet\\_web.pdf](https://www2.gov.bc.ca/assets/gov/environment/climate-change/action/clp/clp_booklet_web.pdf)

<sup>21</sup> BC's Climate Leadership Plan dated August 2016, p. 5.

<sup>22</sup> BC's Climate Leadership Plan dated August 2016, p. 20.

<sup>23</sup> Exhibit C19-2, MEMPR evidence, pp. 2-3.

In terms of vehicle purchase incentives, Scrap-It provides \$3,000 to customers who scrap an old vehicle and purchase a used EV, and \$6,000 for customers who purchase a new EV. Although Scrap-It is a private initiative, it may be combined with the Clean Energy Vehicle Program incentive, allowing a total incentive of up to \$12,000 for hydrogen fuel cell EVs, and up to \$11,000 for battery EVs.<sup>24</sup>

The BC Electric Vehicle Infrastructure Project, launched in 2012, was led by BC Hydro and supported by the Province of British Columbia, the federal government, municipalities and the private sector. The Electric Vehicle Infrastructure Project led to the installation and operation of more than 500 Level 2 charging stations for public use in urban areas across the province, and 30 DCFC stations along major transportation corridors.

Subsequently, a second phase of DCFC station deployment was supported by the Province, with partial funding for 21 new stations across BC. In the Budget Update of September 2017, further Provincial investment in DCFC stations was confirmed, with \$2 million going into a multi-year joint call with Natural Resources Canada for a targeted additional 80 DCFC stations in BC.<sup>25</sup>

In a recent announcement,<sup>26</sup> the Government of BC indicated that legislation will be introduced to set targets of ten percent zero emission vehicles sales by 2025, thirty percent by 2030, and one hundred percent by 2040. The Government of BC outlined the following plan to kick start and fuel the roll out of the zero emissions vehicles standard:

1. Expanding the size of BC's EV DCFC network to 151 sites.
2. Increasing the provincial incentive program, administered by the New Car Dealers Association of BC, by \$20 million this year to encourage more British Columbians to buy clean energy cars now. This will bring the incentive program up to \$57 million in total.
3. Reviewing the incentive program with an eye to expanding it over time, so buying a zero emission vehicle becomes a more affordable option for middle- and lower-income British Columbians.

### **2.3 Regulatory framework elsewhere in North America**

The Panel has reviewed interveners' evidence from other North American jurisdictions. Regulatory decisions elsewhere include the interpretation of how statutory definitions of public utility apply to EV charging service, whether to exempt third-party EV charging service providers from regulation, consideration of whether existing utilities are permitted to own/operate EV charging service, and if so, the applicable cost recovery mechanism.

#### *EV charging regulation in California*

California represents the largest EV market in North America, and was one of the first jurisdictions to address EV charging service policy. As of October 2017, California had 337,482 zero-emissions vehicles, making up four and a half percent of the total vehicle fleet in California.<sup>27</sup> As of December 2017, the United States had about 765,000 plug-in cars, with California accounting for approximately forty eight percent of cumulative US plug-in sales at over 365,000 units.<sup>28</sup> Experience in California is therefore particularly instructive for other regulators which are considering the appropriate regulatory framework for EV charging service.

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<sup>24</sup> Exhibit C19-2, MEMPR evidence, p. 3.

<sup>25</sup> Exhibit C19-2, MEMPR evidence, p. 4.

<sup>26</sup> <https://news.gov.bc.ca/releases/2018PREM0082-002226>

<sup>27</sup> Exhibit C12-2, FBC evidence, p. 14.

<sup>28</sup> Exhibit C24-2, CEC evidence, pp. 72–73.

In 2010, the California Public Utilities Commission (CPUC) determined that ownership or operation of a facility that sells EV charging services to the public and the selling of EV charging services from that facility to the public does not make the corporation or person a “public utility,” solely because of that sale, ownership or operation.<sup>29</sup> Following further regulatory process, in 2011 the CPUC expressed concerns with regard to the competitive limitations resulting from utility ownership of EV charging service, resulting in the restriction of utility ownership of EV charging service to the provision of that service to the utilities’ own fleets or employees only.<sup>30</sup>

However, in 2014, the CPUC overturned its 2011 decision on utility ownership of EV charging service, endorsing an expanded role for utilities in developing EV infrastructure to be evaluated on a case-specific basis.<sup>31</sup> Subsequently, the CPUC has issued the following decisions for the three major Californian investor-owned utilities:

- San Diego Gas and Electric Company (SDG&E): in 2015, the CPUC concluded that EV charging service ownership by SDG&E would be permitted under a pilot program and related costs to target 3,500 EV charging station installations, during a sign-up period of three years which could be recovered from SDG&E’s ratepayers, net of any revenues generated from the EV charging stations.<sup>32</sup>
- Southern California Edison Company (SCE) received authorization to collect \$22 million in revenue requirement to implement the “Charge Ready” and “Market Education” programs, targeting deployment of up to 1,500 “make-ready” EV charging stations.<sup>33</sup>
- Pacific Gas and Electric Company (PG&E) in 2016 was authorized to install up to 7,500 EV charging stations, with PG&E ownership restricted to disadvantaged communities and multi-unit dwellings, and the remainder to be make-ready. The CPUC approved the inclusion of PG&E owned EV charging stations in rate base, with rebates from site hosts treated as expenses.<sup>34</sup>

California also provides examples of novel rate designs for EV charging stations:

- ChargePoint notes that for residential customers, each of the three large Investor-Owned Utilities has whole house Time of Use (TOU) rates and separately-metered TOU rates for EV drivers.<sup>35</sup>
- Tesla submits that a billing structure which minimizes demand charges for site hosts (by only charging customers for the incremental portion of the EV demand that caused the increase in maximum site demand) is currently pending approval before the CPUC.<sup>36</sup>

CoV notes that California is an early leader in developing “Right to Charge” rules to prevent strata corporations from unreasonably blocking the installation of EV charging in cases where the strata owner is willing to pay for the equipment and installation.<sup>37</sup>

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<sup>29</sup> CPUC Decision 10-07-044, p. 35. [http://docs.cpuc.ca.gov/PublishedDocs/WORD\\_PDF/FINAL\\_DECISION/121450.PDF](http://docs.cpuc.ca.gov/PublishedDocs/WORD_PDF/FINAL_DECISION/121450.PDF)

<sup>30</sup> CPUC Decision 11-07-029, pp. 49–50. [http://docs.cpuc.ca.gov/PublishedDocs/WORD\\_PDF/FINAL\\_DECISION/139969.PDF](http://docs.cpuc.ca.gov/PublishedDocs/WORD_PDF/FINAL_DECISION/139969.PDF)

<sup>31</sup> CPUC Decision 14-12-079, pp. 5–6. <http://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M143/K682/143682372.PDF>

<sup>32</sup> CPUC Decision 16-01-045, pp. 3–4. <http://docs.cpuc.ca.gov/publisheddocs/published/g000/m158/k241/158241020.pdf>

<sup>33</sup> CPUC Decision 16-01-23, pp. 1–5. <http://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M157/K835/157835660.PDF>

<sup>34</sup> CPUC Decision 16-12-065, pp. 2, 37–38, 64–65. <http://docs.cpuc.ca.gov/publisheddocs/published/g000/m171/k539/171539218.pdf>,

<sup>35</sup> Exhibit C25-7, ChargePoint response to BCUC IR 10.1.

<sup>36</sup> Exhibit C28-3, Tesla response to BCUC IR 10.2.

<sup>37</sup> Exhibit C5-2, CoV evidence, p. 18.

## Other jurisdictions

A number of regulators have found that owning and/or operating EV charging stations does not meet the applicable statutory definition of “public utility” (or the equivalent term in other jurisdictions). ChargePoint in its evidence submission provides citations from twenty US states and the District of Columbia that have clarified, through statutory amendment or otherwise, that EV charging services provided by third party owners and operators that are not otherwise utilities are outside of regulatory commission jurisdiction.<sup>38</sup> Examples include:

- Missouri Public Service Commission (MPSC) found that EV charging stations are not classed as “electric plant” because they are not used for furnishing electricity for light, heat, or power, and that the charging service, not the electricity used to power the system, is the product sold.<sup>39</sup>
- New York Public Service Commission (NYPSC) determined that EV charging stations do not fall within the definition of “electric plant,” as they provide a service requiring the use of specialized equipment that allows the customer to do only one thing, charge an EV’s battery; a customer’s use of electricity is incidental to the transaction with an EV charging station owner/operator.<sup>40</sup>
- Tesla<sup>41</sup> and VEVA<sup>42</sup> note the Ontario Energy Board (OEB) staff guidance bulletin issued on July 7, 2016, which sets out OEB staff’s view that ownership or operation of an EV charging station, and the selling of EV charging services from that facility, do not constitute distribution or retailing of electricity. Since the OEB does not regulate end uses of electricity, its codes, rules and regulatory requirements do not apply.

## Utility ownership of EV charging services

A number of jurisdictions have legislative or regulatory directives that permit utilities to own EV charging stations, although the framework under which utilities may operate varies.

There are examples of jurisdictions where utility involvement in the EV charging service sector is influenced by explicit statutory goals. For example, the California Senate established new clean energy, clean air and greenhouse gas and reduction goals for 2030 and beyond that, among other things, requires utilities to undertake transportation electrification activities. The 2016 Oregon Legislature directed investor-owned utilities to achieve advanced transportation electrification and achieve ratepayer and environmental benefits. Washington State encourages utility leadership in EV charging infrastructure build-out.<sup>43</sup> These jurisdictions provide examples where public utilities are permitted to provide EV charging services and recover costs through rates. There are restrictions on utility ownership of EV charging stations, for example:

- In Hawaii, rate base recovery is permitted up to a certain amount;

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<sup>38</sup> Exhibit C25-2, ChargePoint evidence, pp. 10–11.

<sup>39</sup> MPSC Report and Order: In the Matter of the Application of Union Electric Company d/b/a Ameren Missouri for Approval or a Tariff Setting a Rate for Electric Vehicle Charging Stations (File No. ET-2016-0246, filed April 19, 2017), p. 10.

[https://www.efis.psc.mo.gov/mpsc/commoncomponents/view\\_itemno\\_details.asp?caseno=ET-2016-0246&attach\\_id=2017016053](https://www.efis.psc.mo.gov/mpsc/commoncomponents/view_itemno_details.asp?caseno=ET-2016-0246&attach_id=2017016053)

<sup>40</sup> In the Matter of Electric Vehicle Policies, Declaratory Ruling on Jurisdiction over Publicly Available Electric Vehicle Charging Stations at 4 (NYPSC Case No. 13-E-0199, issued Nov. 22, 2013), p. 4.

<http://documents.dps.ny.gov/public/MatterManagement/CaseMaster.aspx?MatterSeq=42691>

<sup>41</sup> Exhibit C28-2, Tesla evidence p. 5.

<sup>42</sup> Exhibit C30-2, VEVA evidence p. 5.

<sup>43</sup> Exhibit C1-4, BC Hydro response to BCUC IR1.5.1.1.

- In New Jersey, utilities are allowed to operate public EV charging stations as a regulated service in underserved markets (as determined by the Board of Public Utilities);
- Massachusetts utilities are prohibited from recovering costs in most circumstances, with exceptions for their own fleet, R&D as part of an approved pilot or grid modernization plan, or as part of another approved expenditure. Eversource EV Infrastructure Proposal D.P.U 17-05 adopts a “make ready” model whereby the utility provides and installs the distribution infrastructure but does not own the charging stations;
- Colorado utilities can own EV charging stations, only as an unregulated service;<sup>44</sup>
- In Nova Scotia, the Utility and Review Board denied a request from Nova Scotia Power Incorporated to recover from ratepayers the cost of purchasing and installing 12 EV fast-charging stations at locations across Nova Scotia,<sup>45</sup> as the board found that EV charging stations are similar to other equipment on customers’ premises and need not be owned as ratepayer assets.<sup>46</sup>

### *Panel discussion*

The Panel notes the decisions made in other jurisdictions and the regulatory frameworks that have been established with respect to EV charging service. However, the Panel is mindful of the need to carefully distinguish the different legislative statutes, policy frameworks and EV markets that exist elsewhere from the situation in BC. For example, in a number of jurisdictions regulators have concluded that EV charging stations are not classified as “electric plant” or “utility plant” in determining that EV charging station owners/operators that are not otherwise a public utility fall outside of regulatory jurisdiction. However, the test for whether an entity meets the definition of “public utility” in the UCA is not determined by classification as “electric plant,” “utility plant” or similar terminology. In this regard, the Panel does not consider that decisions and guidance issued in other jurisdictions can be determinative in reaching its findings for this Inquiry. Instead, the Panel relies in part on the guidelines and considerations established in BC such as the principles developed in the AES inquiry and RMDM Guidelines as outlined above. These will be referenced in the appropriate discussion in further sections in this Report.

## **2.4 Issues arising**

In this Report, the Panel will address the issues identified as being included in the scope of Phase 1 of the Inquiry in the following manner:

- Section 3 reviews the EV charging market and the level of competition in the EV charging market;
- Section 4 addresses the issue of compensation and then consider whether EV charging service is a public utility activity;
- Section 5 addresses the question – what degree of regulation, if any, should persons that are not otherwise public utilities be regulated?
- Section 6 explores some questions that will form part of the scope in phase two – should non-exempt public utilities (e.g. BC Hydro and FBC) be regulated? What are the concerns these parties to participate in the EV market (i.e. cross subsidization in rate base)?

<sup>44</sup> Exhibit C1-4, BC Hydro response to BCUC IR1.5.1.1.

<sup>45</sup> Exhibit C19-2, MEMPR evidence p. 8.

<sup>46</sup> NSUARB Decision M08224, p. 13, <https://nsuarb.novascotia.ca/sites/default/files/M08224%20Decision.pdf>



- Section 7 discusses the interpretation of the *Clean Energy Act* and Greenhouse Gas Reduction Regulation (GGRR) as it relates to EV charging infrastructure investments.

### 3.0 Does the existing EV charging services market exhibit monopoly characteristics?

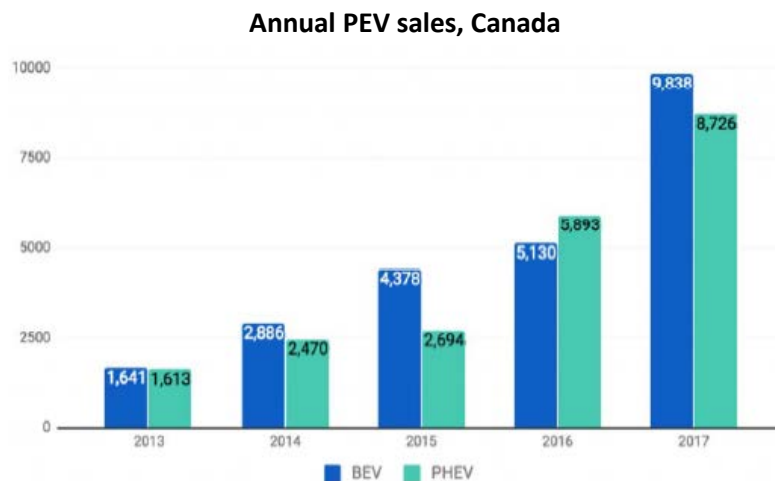
The Panel considers the extent to which monopoly characteristics are present in the EV charging market in BC plays a critical role in determining what level of economic regulation is appropriate. Therefore, this section:

- Reviews the electric vehicle ownership market;
- Reviews the EV charging infrastructure;
- Reviews the level of competition in the EV charging market; and
- Provides the Panel’s findings.

#### 3.1 Electric vehicles

In early 2018, there were approximately 8,000 light-duty EVs on the road in BC. The Clean Energy Vehicle Program expects the zero emission vehicles population in BC to be approximately 20,000 vehicles by 2020.<sup>47</sup> According to a Powertech Labs report dated October 19, 2016, two recent studies indicate that EV will make up between three to six percent of the vehicle fleet in BC by 2024, and between 13-20 percent by 2030.<sup>48</sup>

According to Fleetcarma’s “EV sales in Canada Year-end Update 2017,” plug-in EV sales in Canada increased 68 percent year-over-year, from 11,023 units sold in 2016 to 18,560 units sold in 2017. In BC, there were 2,132 and 3,270 units sold in 2016 and 2017, respectively. There are two types of plug-in vehicles, battery electric vehicles (BEVs) and plug-in hybrid electric vehicles (PHEVs). The graph below shows the annual plug-in EV sales in Canada from 2013 to 2017.



<sup>47</sup> Exhibit C19-2, MEMPR evidence, p.3.

<sup>48</sup> Exhibit C12-2, FBC evidence, Appendix 1, 2016 Powertech Labs EV Technology and Market Overview, pp. iv, 17–19.

## EV charging technology

An electric battery is a device that stores electricity and requires direct current (DC) to be charged. However, in North America, electricity is typically provided as alternating current (AC) and therefore, must be converted from AC to DC to charge an EV's battery. This conversion may take place onboard the vehicle or within an EV charging station. The diagram below shows the difference between AC charging and DC charging.<sup>49</sup>

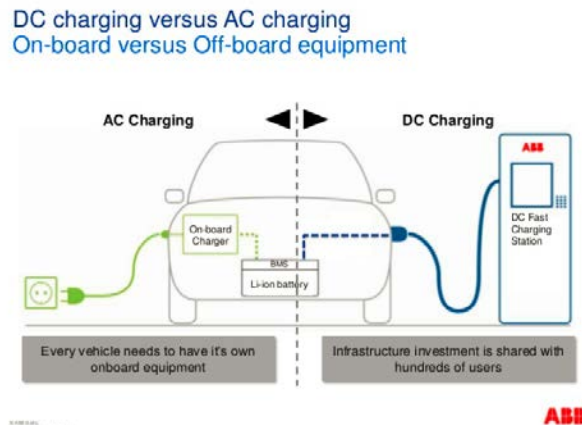


Figure 21: Diagram showing the difference between AC and DC charging - Source: www.abb.com

There are currently three types of EV charging service. They are Level 1, Level 2, and Direct Current Fast Charging (DCFC).<sup>50</sup> Level 1 and Level 2 charging use AC power from the grid to the vehicle through the charge port, and an on-board charger converts this AC power to DC in order to charge the battery. In the case of DC charging, the DCFC station itself converts the AC power to DC power. DC power bypasses the vehicle's on-board charger and the electricity goes directly into the battery.<sup>51</sup>

The table below, provided by FBC, shows the types of EV charging service, their typical use and characteristics of each type.<sup>52</sup>

### EV Charging Types

Type of Charging	Charging Level	Time to Charge	Vehicle Type	Typical Locations	Costs to Install
Level 1	AC (120 volt)	Four hours for 30 minutes of driving	PHEV or BEV	Residences, some public	\$200-\$2,000
Level 2	AC (240 volt)	Four hours for full charge	PHEV or BEV	Residences, Municipal locations, office towers, parks, recreational facilities, shopping malls	\$1,000 - \$2,500
Level 3	Direct Current Fast Charging (DCFC)	30 – 60 minutes for full charge	BEV only	Highway corridors	\$50,000 - \$100,000

<sup>49</sup> Exhibit C1-2, BC Hydro evidence, Appendix A, p. 1

<sup>50</sup> According to the Powertech Lab EV Technology and Market Overview dated October 19, 2016, DCFC used to be referred to as "Level 3" charging, but this nomenclature was revised in 2011 in order to distinguish between the different charging configurations, and to leave the door open for definition of 3 charging levels for both AC and DC charging. According to BC Hydro, AC Level 3 is still in development and the technology appears to be intended to support larger commercial vehicles such as electric buses and trucks. (Exhibit C1-4, BC Hydro response to BCUC IR 19.1)

<sup>51</sup> Exhibit C1-2, BC Hydro evidence, Appendix A, p. 1

<sup>52</sup> Exhibit C12-2, FBC evidence, p. 4

Generally some 80 percent of EV charging occurs at home or at work using Level 1 and Level 2 charging.<sup>53</sup> Public EV charging stations are generally used by drivers to “top up” on short trips or fully charge vehicles on long distance trips. Because of slow charging speeds, Level 1 charging is best suited to overnight or long-term parking use.<sup>54</sup>

Level 1 charging requires no specialized infrastructure other than a standard 120 volt electrical outlet. Level 2 charging stations are the most common type of public charging infrastructure in North America. The charging speed is typically more than double as compared to Level 1 charging because it uses a 240 volt outlet. The relatively low capital and maintenance costs of Level 2 charging stations enable use by a wide variety of participants, including private households, municipalities, and businesses.<sup>55</sup>

DCFC stations can deliver an approximately 80 percent charge in approximately 30 minutes. DCFC stations have relatively higher installation costs – currently between \$50,000 and \$100,000 – because the AC to DC conversion equipment in the DCFC station is more complicated than Level 1 and Level 2 AC charging.

Submissions were made regarding emerging technologies that might be considered variations/improvements on the level of technology, or perhaps a new ‘level 4’. However, there is no evidence in this proceeding that any of these technologies are yet in use.

### *Connectors (chargers)*

Connectors refer to the different types of connectors for EV charging. All passenger EVs sold in North America comply with the Society of Automotive Engineers (SAE) J1772 standard which: ensures that a vehicle is aware of the limitations of the circuit it is connected to; ensures that power is only applied when the vehicle is actively requesting power (preventing bad connections; arcing and potential fire risks); and prevents the vehicle from being driven while a charging cable is still attached.<sup>56</sup>

According to Chargehub, there are currently seven connectors used by automakers.<sup>57</sup> Three of the seven apply to DCFC stations, namely CHAdeMO, SAE Combo Combined Charging System (CCS), and Tesla supercharger. Different automakers have adopted different connectors. The following table shows a summary of DCFC standards used by various vehicles and automakers.<sup>58</sup>

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<sup>53</sup> Exhibit C1-2, BC Hydro evidence p. 4

<sup>54</sup> We note the analogy of Level 1 charging with outdoor receptacles used to plug in engine block heaters in many areas of the province. They are not metered, not regulated and no fee is charged.

<sup>55</sup> Exhibit C1-2, BC Hydro evidence, Appendix A, p. 4; Exhibit C34-2, CEA evidence p. 2; Exhibit C12-2, FBC evidence p. 4; Exhibit C35-2, Victoria EVA evidence p. 31.

<sup>56</sup> Exhibit C1-2, Appendix A, p. 2; Exhibit C12-2, Appendix 1, p. 37.

<sup>57</sup> <https://chargehub.com/en/electric-car-charging-guide.html>

<sup>58</sup> Exhibit C1-2, BC Hydro evidence, Appendix A, p. 8; Exhibit C12-2, FBC evidence, Appendix 1, p. 43.

## Summary of DCFC standards

Standard	Supported Vehicles	Supporting Automakers
CHAdeMO	Nissan Leaf Mitsubishi iMIEV Kia Soul EV Tesla Model S (via adaptor)	Mitsubishi Nissan Kia
CCS	BMW i3 Volkswagen eGolf Chevrolet Spark Hyundai Ioniq Ford Focus Chevrolet Bolt	BMW Volkswagen Audi Mercedes GM Ford Fiat-Chrysler Hyundai
Tesla Supercharger	Tesla Model S	Tesla

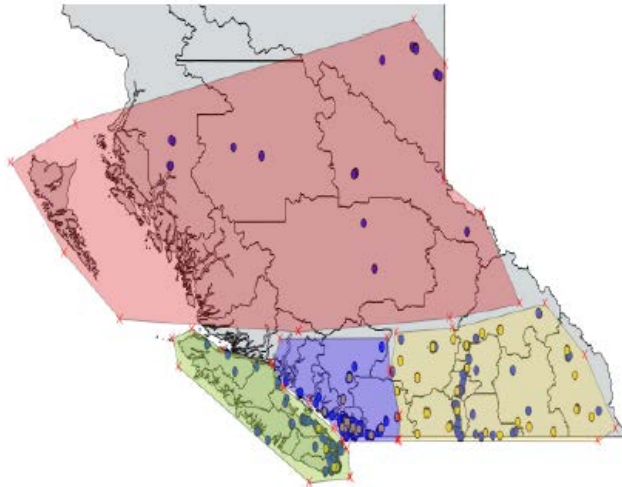
Adaptors may be available to make a connector compatible with another connector.<sup>59</sup> For example, Tesla makes available adaptors for use at CHAdeMO-standard DC Fast stations.<sup>60</sup> However, Tesla maintains its own proprietary DCFC technology that is only available to Tesla owners.<sup>61</sup>

### 3.2 Public EV charging stations in BC

Existing public EV charging stations in BC are generally a mix of municipal, private and public utility investments. BC Hydro views that there will be pressure for the EV charging marketplace to grow and evolve as the number of EVs and demand for EV charging services increase in the province.<sup>62</sup>

While approximately 80 percent of all charging occurs at home, usually overnight,<sup>63</sup> MEMPR submits that fuelling and EV charging infrastructure are key components in ensuring more zero emission vehicles are on BC's roads. It submits that the availability of public EV charging provides an essential backstop and enables longer journeys.<sup>64</sup>

#### Overview of Level 2 and DCFC Charging Locations in BC



<sup>59</sup> Exhibit C-24-2, CEC evidence, p. 101

<sup>60</sup> Exhibit C28-2, Tesla evidence, p. 4.

<sup>61</sup> Exhibit C1-2, BC Hydro evidence, Appendix A, p. 9; Exhibit C12-2, FBC evidence, Appendix 1, p. 43; Exhibit C24-2, CEC evidence, p. 7; Exhibit C1-4, BC Hydro response to BCUC IR 15.3.1.

<sup>62</sup> Exhibit C1-2, BC Hydro evidence, p. 2.

<sup>63</sup> Exhibit C5-2, CoV evidence, p. 5; Exhibit C28-2, Tesla evidence, p. 4 p. 4; Exhibit C23-2, BSSI evidence, p. 5.

<sup>64</sup> Exhibit C19-2, MEMPR evidence, p. 4.

FBC provides a graphic overview of EV charging stations in BC.<sup>65</sup> Blue dots represent Level 2 charging station locations; yellow dots represent DCFC station locations. FBC notes that some areas in BC have little or no EV charging stations. According to a Mogile Technologies Inc. Report cited by FBC, most Level 2 charging stations in BC are free. DCFC stations typically have time-based or energy-based pricing. Tesla DCFC stations have their own specific pricing model.<sup>66</sup>

Intervenors submitted evidence on the number of public EV charging station locations and ports by types in BC. BCUC staff collated data from the Inquiry’s evidence and cross checked the information with the Natural Resources Canada (NRCAN) Electric Charging and Alternative Fuelling Stations Locator<sup>67</sup> for reasonableness. The following BCUC staff tables show public Level 2 EV charging services in BC, as well as public DCFC stations in BC.

<b>BCUC Staff Table 1: Level 2 Public Stations</b>			
	<b>Level 2 (owner-operator)</b>	<b>Notes</b>	<b>References</b>
BC Hydro	4	Named as "utility" in Mogile table. Assumed to be BC Hydro	Exhibit C12-3, FBC response to Flintoff IR 3.4
Municipality	157		Exhibit C12-3, FBC response to Flintoff IR 3.4
Business	327		Exhibit C12-3, FBC response to Flintoff IR 3.4
Uncertain	45		Exhibit C12-3, FBC response to Flintoff IR 3.4
Tesla stations	130	Tesla submits it “has partnered in the installation of 190 “Destination Chargers” (Level-2) at over 100 sites in British Columbia.”	Exhibit C28-2, Tesla evidence, p. 1.
<b>Total stations</b>	663	Compared to NRCAN count = 651 Level 2 stations as of October 2018	
<b>Total number Ports</b>	1142	Earlier total of 1237 provided by ChargePoint. NRCAN link results in total ports of 1264 for Level 2 as of October 2018.	Exhibit C12-2, FBC evidence, Appendix 4, p. 1; Exhibit C25-2, ChargePoint evidence, p. 19

While the majority of public charging stations are free to use, many require drivers to join a service network to access the stations.<sup>68</sup> There are currently three main charging service networks in BC, including ChargePoint, VERNetwork/Flo which dominate the Level 2 network stations, and Greenlots which focus on DCFC stations.<sup>69</sup>

<sup>65</sup> Exhibit C12-2, FBC evidence, Figure 2-2, p. 5, Appendix 4, Mogile Technologies Inc. report.

<sup>66</sup> Exhibit C12-2, FBC evidence, p. 5; Appendix 4, Table 2 and Table 3.

<sup>67</sup> [https://www.nrcan.gc.ca/energy/transportation/personal/20487#/analyze?region=CA-BC&fuel=ELEC&country=CA&status=E&status=T&ev\\_levels=all](https://www.nrcan.gc.ca/energy/transportation/personal/20487#/analyze?region=CA-BC&fuel=ELEC&country=CA&status=E&status=T&ev_levels=all)

<sup>68</sup> Exhibit C1-2, BC Hydro evidence, p. 5.

<sup>69</sup> Exhibit C24-2, CEC evidence, p. 23.

**BCUC Staff Table 2: DCFC Public Stations in BC**

	<b>Owner</b>	<b>Operator</b>	<b>Notes</b>	<b>References</b>
BC Hydro	58	29	BC Hydro owns a total of 58, including 30 pilot DCFC stations + 22 Phase II + 6 Kootenay. They operate 22 Phase II DCFC stations plus 6 in the Kootenay region plus 1 Powertech Labs	Exhibit C1-3, BC Hydro presentation, pp. 5, 9-10; Exhibit C1-4, BC Hydro IR 12.19
FBC	5	5	FBC owns and operates 5 DCFC stations as noted in the December 22, 2017 FBC application	Exhibit C12-2, FBC evidence, p. 12
Bakerview Eco-Dairy	0	1	They operate 1 DCFC station owned by BC Hydro in the Phase 1 pilot.	Exhibit C1-4, BC Hydro response to BCUC IR 1.12.12;
Municipality	0	28	Municipalities operate 28 DCFC stations out of the initial BC Hydro pilot of 30.	Exhibit C12-3, FBC response to Flintoff IR 3.4
Business	3	3	Unknown businesses	Exhibit C12-3, FBC response to Flintoff IR 3.4
Tesla	10	10	10 based on Tesla’s evidence, 12 based on most recent data at <a href="http://www.teslamotors.com/supercharger">http://www.teslamotors.com/supercharger</a> , and 8 based on NRCAN’s dataset.	Exhibit C28-2, Tesla evidence, p. 1.
<b>Total stations</b>	76	76	Updated DCFC total aligns with PluginBC news that there would be 64 public DCFC stations as of July 2018 (excluding Tesla). Original undated Mogile report indicated 51 DCFC stations.	
<b>Total Ports</b>	120		NRCAN total count = 157, of which 78 are Tesla Supercharger connectors	Exhibit C12-2, FBC evidence, Appendix 4, p. 1 Exhibit C28-2, Tesla evidence, p. 1

**Note:** BCUC Staff table 2 is created based on the Inquiry’s evidence. The DCFC public stations show the owner and/or operator. For example, BC Hydro owns 58 DCFC stations. BC Hydro operates 29 of 58 DCFC stations that it owns, whereas municipalities do not own any DCFC stations but operate 28 DCFC stations. There is a trend towards ensuring that EV drivers are able to access charging stations on multiple networks while only requiring one membership account.<sup>70</sup>

Interveners generally agree that the increased development of adequate charging infrastructure is essential to further develop the EV market in BC,<sup>71</sup> particularly in the case of public DCFC stations. MEMPR estimates that approximately 200 DCFC stations will be required “at a minimum” to support the number of EVs travelling along all of BC’s primary and secondary highway corridors.<sup>72</sup> The Victoria EVA estimates that between 320 and 615 DCFC stations could be required over the next 5 years based on current estimated rates of EV sales.<sup>73</sup>

Despite the fact that the current number of DCFC stations is below these estimates of what is required in the future, many interveners believe the current number of stations is reflective of the current state of the market,

<sup>70</sup> Exhibit C20-2, ATI evidence, p. 10; Kelowna Transcript p. 91; Exhibit C12-2, FBC evidence, Appendix 1, p. 48.

<sup>71</sup> Exhibit C12-2, FBC evidence p. 3.

<sup>72</sup> Exhibit C19-2, MEMPR evidence, p. 6.

<sup>73</sup> Exhibit C35-2, Victoria EVA evidence, p. 1.

and that market forces will provide more public stations as the demand increases. Flintoff submits that Tesla already provides an example of manufacturer funded infrastructure, and other EV manufacturers are already making commitments to build these charging stations in Europe and North America to enable them to sell more vehicles.<sup>74</sup>

### 3.3 Level of competition

Many interveners argue that the EV charging service market does not exhibit any natural monopoly characteristics,<sup>75</sup> with several<sup>76</sup> providing supporting reasons for why it is not a natural monopoly. For example, ChargePoint notes in its Final Argument:

There are no significant natural monopoly characteristics in the EVCS [EV charging stations] market (e.g., large initial capital costs; significant barriers to entry; infrastructure which is not cost-effective or otherwise amenable to duplication; subadditivity of costs meaning output demanded can be produced most efficiently by only a single firm; and economies of scale). EVCS require limited capital investment compared to regulated industries, and there are no substantial barriers to entry into the market.<sup>77</sup>

Many interveners note the lack of significant financial barriers to entry, the existence of which would otherwise create the conditions for a natural monopoly. Level 2 charging stations typically cost between \$2,000<sup>78</sup> and \$10,000 to install and require an electrical connection similar to that of a dryer or stove plug. Cost estimates for DCFC stations ranged from \$50,000 and \$150,000.<sup>79</sup> The costs associated with either type of EV charging stations are not considered high enough to constitute a natural barrier to entry,<sup>80</sup> and are, for example, significantly lower than those required to build a conventional gas station.<sup>81</sup>

VEVA argues that

Charging stations are not the type of facilities that create natural monopolies, as they don't require very large investments by a single service provider. Charging stations are much more analogous to broadly distributed individual gas stations that are owned and operated by a number of competitors, which in the aggregate create an infrastructure network providing fuel service options at a variety of locations. Charging stations are typically owned and operated by a number of different entities and site hosts (e.g. municipalities, workplaces, utilities, malls, restaurants, strata councils, resident groups, etc.) with a number of companies supplying charging stations and services into that market.<sup>82</sup>

The relative lack of DCFC stations has led some interveners to describe this EV market segment as emerging, not yet competitive.<sup>83</sup> FBC and BC Hydro<sup>84</sup> describe the current lack of DCFC stations as having more to do with low

<sup>74</sup> Exhibit C4-2, Flintoff evidence, pp. 6, 16; Exhibit C16-2, Guthrie evidence pp. 3-4; Exhibit C28-2, Tesla evidence, p. 3.

<sup>75</sup> Exhibit C25-10, ChargePoint final argument, p. 3; Exhibit C6-14, BCSEA Final Argument, p. 25; Exhibit C30-8, VEVA final argument, p. 10.

<sup>76</sup> Exhibit C24-19, CEC final argument, p. 7; Exhibit C23-2, BSSI evidence, pp.2, 5; Exhibit C25-2, ChargePoint evidence, pp. 3, 13; Exhibit 5-2, CoV evidence, p. 8; Exhibit C24-2, CEC evidence, p. 20.

<sup>77</sup> Exhibit C25-10, ChargePoint final argument, pp. 7-8.

<sup>78</sup> Exhibit C1-4, BC Hydro response to BCUC IR 1.11.1.

<sup>79</sup> Exhibit C34-2, CEA evidence, p. 2; Exhibit C12-2, FBC evidence, p. 4; Exhibit C35-2, Victoria EVA evidence, p. 31.

<sup>80</sup> Exhibit C24-2, CEC evidence, p. 13; Exhibit C1-2, BC Hydro evidence p. 8.

<sup>81</sup> Exhibit C16-2, Guthrie evidence, p. 3.

<sup>82</sup> [Exhibit C30-2, VEVA evidence, pp. 4-5.](#)

<sup>83</sup> Exhibit C5-2, CoV evidence, p. 6; Exhibit C12-2, FBC evidence p. 11; Exhibit C15-2, Greenlots evidence, p. 2.

<sup>84</sup> Exhibit C1-2, BC Hydro evidence, p. 8.

demand (rather than high investment costs), resulting in infrastructure not yet being cost-effective based on current demand levels. Both utilities conclude that a competitive environment for services provided by EV charging stations does not currently exist in BC, and the market still requires assistance to become competitive.<sup>85</sup>

Other interveners<sup>86</sup> believe that the EV charging market is a competitive, albeit immature market. Some of these interveners comment that DCFC stations, being on the customer side of the utility meter, are more akin to a gasoline service station than a traditional energy utility. Some interveners comment that, given the ubiquity of Level 1 (virtually any wall outlet is a ‘service station’) and Level 2 charging options, the EV market in total has a greater variety of options and locations for EV charging, involving a much more diverse range of players than the traditional gasoline service station market.<sup>87</sup>

Some interveners provided perspectives on the underlying reasons why the market is not yet fully built out. Two main themes emerged.

The first theme is that investment in DCFC stations is unattractive to private investors based on the charging habits of EV users, and this presents a fundamental barrier to the cost-effective roll-out of DCFC infrastructure, particularly in remote locations. From this perspective, the lack of private involvement in DCFC stations appears to be due less to cost of market entry than to driver charging habits. Unlike gasoline vehicles which are completely reliant on public fuel-stations,<sup>88</sup> most EV drivers charge at home most of the time. The usage of public charging stations as a proportion of total charging sessions tends to be relatively low.<sup>89</sup>

The second theme is that a significant inhibitor to growth is the uncertainty surrounding the existing regulatory framework. Advocates of this view submit that the removal of the regulatory barrier created by the UCA, and the ambiguity over the regulatory status of EV charging services will be sufficient to allow the DCFC market to develop and become more competitive.<sup>90</sup> The current regulatory uncertainty is seen to be slowing down the entry of new EV charging station owners, which in turn is hindering the adoption of EV.<sup>91</sup> CEC notes that DCFC stations are being deployed throughout the US, providing support for the argument that the current slow growth of DCFC stations in British Columbia may be due to more regulatory uncertainty than economic barriers.<sup>92</sup> The perceived inability to recover costs will be covered further in section 4 below regarding the “for compensation” wording within the definition of a public utility under the UCA.

The final arguments presented on the state of competition in the EV charging service market were mixed.

BCOAPO submits that while EV charging services should eventually evolve into a competitive market, the market for EV charging service offerings by parties who are otherwise not public utilities is currently not fully competitive. This is due to the limited availability of EV charging stations (particularly in non-urban areas) –

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<sup>85</sup> Exhibit C12-2, FBC evidence, p. 11.

<sup>86</sup> Exhibit C3-2, DEI evidence, p. 1; Exhibit 28-2, Tesla evidence, p. 3; Exhibit C30-2, VEVA evidence, p. 4.

<sup>87</sup> Exhibit C30-2, VEVA evidence, pp. 4-5; Exhibit C16-2, Guthrie evidence, p. 2.

<sup>88</sup> Exhibit C20-2, ATI evidence, Appendix E.

<sup>89</sup> Exhibit C20-2, ATI evidence, p. 4.

<sup>90</sup> Exhibit C23-2, BSSI evidence; Exhibit C1-2, BC Hydro evidence, pp. 2–4.

<sup>91</sup> Exhibit C9-2, UDI evidence, p. 12; Exhibit C5-2, CoV evidence, p. 11; Exhibit 19-2, MEMPR evidence, p. 6; Exhibit C20-2, ATI evidence; Exhibit C-24-2, CEC evidence, pp. 12–13.

<sup>92</sup> Exhibit C24-2, CEC evidence, pp. 16, 42–43.



which in turn is due to the current low market penetration of EVs.<sup>93</sup> CEABC states its support for the regulated EV charging services in areas of the province that cannot support EV charging services on a commercial basis.<sup>94</sup>

Opposing views can be summarised in the submissions provided by CEC and ChargePoint:

The CEC reiterates its views that the evidence on the record is overwhelming that EV charging is a competitive market and is not a natural monopoly.<sup>95</sup>

The market may be young, but it does not present natural monopolies. Consumers have choices and options in BC that can and will discipline charging providers.<sup>96</sup>

### 3.4 Landlords, tenants, and strata corporations

Given that the bulk of EV charging currently takes place at home, and that many apartments, townhouses and strata buildings do not have the infrastructure to support EV charging in their parking areas, many residents in these buildings find EV ownership impractical at best. The argument is made that all EV owners (and prospective owners) should have access to home-based EV charging to enable overnight charging, when power supply is greater, rates are lower, and the vehicle is idle for an extended period.<sup>97</sup>

Several interveners<sup>98</sup> have raised concerns on the presence of barriers to access due to the unaffordable cost of retrofits,<sup>99</sup> and monopoly power that can be wielded by landlords or strata corporations.

There have been some direct responses to this infrastructure issue. Municipalities such as the CoV and the City of Richmond have recently passed bylaws requiring that 20 percent of parking stalls in new buildings be EV ready in 2018, increasing to 100 percent in January 1, 2019,<sup>100</sup> a move which other municipalities are now in a position to emulate with the update of the British Columbia's *Building Act* in 2016.<sup>101</sup> The CoV's EV Ecosystem Strategy approved in 2016 also provides for financial support to help residents of existing Multi Unit Residential Buildings (MURBs) invest in EV charging infrastructure on a retrofit basis.<sup>102</sup> In 2016, the BC government and Fraser Basin Council launched the MURB Charging Program, offering support for installation of Level 2 charging infrastructure in existing buildings.<sup>103</sup>

In other regulations related to strata buildings, the MEMPR submits that the Strata Property Regulation was amended on March 7, 2018 to include user fees for services or costs of service that only apply to common property and common assets. This change allows a strata corporation to adopt a bylaw or rule that sets out a cost for EV charging at a fixed rate per hour of charging service that would include both the reasonable cost of electricity and the cost of any upgrades or maintenance requirements of the strata corporation.<sup>104</sup>

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<sup>93</sup> Exhibit C21-10, BCOAPO final Argument, p. 7.

<sup>94</sup> Exhibit C2-2, CEABC final Argument, p. 5.

<sup>95</sup> Exhibit C24-20, CEC final argument, p. 10.

<sup>96</sup> Exhibit C25-10, ChargePoint final argument, p. 3.

<sup>97</sup> Exhibit C35-2, Victoria EVA evidence, p. 12.

<sup>98</sup> Exhibit C5-2, CoV evidence, p. 10; Exhibit C6-2, BCSEA evidence, pp. 9–10.

<sup>99</sup> Exhibit C20-2, ATI evidence, p. 5; Exhibit C35-2, Victoria EVA evidence, p. 15.

<sup>100</sup> Exhibit C5-2, CoV evidence, p. 6.

<sup>101</sup> Exhibit C12-2, FBC evidence, Appendix 1, p. 61.

<sup>102</sup> Exhibit C5-2, ChargePoint evidence, p. 7.

<sup>103</sup> Exhibit C12-2, FBC evidence, Appendix 1, p. 59.

<sup>104</sup> Exhibit C19-9, MEMPR response to VEVA IR 1.2; Exhibit C32-4, MacKenzie response to BCUC IR 2.2.

BC Hydro states that it is not considering owning and maintaining EV charging infrastructure that will be used solely by the residents of a MURB (i.e., not a public charging option). BC Hydro understands that some MURB residents would like to purchase and install their own individual EV charging station and are willing to pay for its usage. BC Hydro is examining any related metering and billing issues as part of the High Voltage Utility Connected Level 2 charger pilot. The pilot’s objective is to address barriers to EV infrastructure deployment, provide a direct billing solution, and test demand-response functionality.<sup>105</sup>

Concerns were also raised that EV owners living in a MURB that provides EV charging in the parking areas will be captive to whatever compensation agreement has been established by their respective strata corporation or landlord, thereby resulting in an effective denial of access to cheaper overnight charging enjoyed by EV owners who live in houses.<sup>106</sup>

### 3.5 Panel findings

We now consider the EV charging market and whether that market is, or exhibits characteristics of, a monopoly.

The Oxford online dictionary defines monopoly to be “[t]he exclusive possession or control of the supply of or trade in a commodity or service”.<sup>107</sup> When a monopoly exists, the absence of the checks and balances that operates in a competitive market result in a power imbalance in favour of the single provider, to the potential detriment of consumers.

When examining the EV charging market in its entirety, the evidence makes it clear that the market is not a monopoly because most EV owners can charge at home. However, a more nuanced view considers only the public portion of the market – EV charging services that are available to drivers when they leave the home. The public market includes EV charging stations provided at work, at a mall or along a highway, much like a gas station. As shown in the BCUC staff tables on pages 15 and 16, the evidence for the public portion of the EV charging market demonstrates that there is more than one provider.

**Therefore, the Panel finds that the EV charging market is not a monopoly because there is more than one service provider.**

That said, an oligopoly, which is “a state of limited competition, in which a market is shared by a small number of producers or sellers,”<sup>108</sup> can confer some of the same power imbalances enjoyed by a monopoly provider to those limited number of service providers. While the evidence shows more than one service provider in many parts of the province, some interveners argue that the market is not fully competitive. The Panel therefore turns its attention to examining if the public EV charging market in British Columbia currently confers monopoly power to those service providers or whether it may reasonably be expected to do so in the foreseeable future.

Monopolies typically arise in one of two ways: because of restrictions imposed upon sellers, typically by governments – which we will refer to as artificial monopolies; or they can occur naturally. Wikipedia defines a natural monopoly as follows:

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<sup>105</sup> Exhibit C1-4, BC Hydro response to BCUC IRs 17.1, 28.2.

<sup>106</sup> Exhibit C5-2, CoV evidence, pp. 10–11, Exhibit C6-2, BCSEA evidence, pp. 9–10.

<sup>107</sup> Oxford online dictionary: <https://en.oxforddictionaries.com/definition/monopoly>

<sup>108</sup> Oxford online dictionary: <https://en.oxforddictionaries.com/definition/oligopoly>

A natural monopoly is a monopoly in an industry in which high infrastructural costs and other barriers to entry relative to the size of the market give the largest supplier in an industry, often the first supplier in a market, an overwhelming advantage over potential competitors. This frequently occurs in industries where capital costs predominate, creating economies of scale that are large in relation to the size of the market; examples include public utilities such as water services and electricity.<sup>109</sup>

With respect to artificial monopoly conditions, **the Panel finds no evidence that any restrictions or impediments to entering the public EV charging market that have been imposed by government at any level, or by the electric utilities that provide wholesale electricity to new EV charging stations.** That being said, governments are active in the EV charging market providing grants and subsidies but no interveners have argued that this has created a restriction or impediment to entry.

Some interveners argue that uncertainty regarding regulatory oversight (i.e. whether provision of EV charging services falls under the UCA definition of a utility), has created a barrier, or at least impediment, to market entry. That said, the Panel's recommendation to exempt from regulation of the EV charging market (more fully set out in Section 5 below), if adopted, will mitigate this regulatory impediment going forward. On a related point, while some parties argue for regulatory intervention to promote more rapid market growth and development of the public EV charging network, that argument speaks to a different issue than whether economic regulation is required to control a market that confers monopoly power to service providers. **Thus, the Panel finds that while concerns about regulatory oversight may have inhibited the development of EV charging infrastructure, they will not constitute a monopoly characteristic if the Panel recommendations are adopted.**

Turning now to whether natural monopoly conditions exist, a number of Interveners argue that the current market is not competitive, largely because there is an insufficient number of charging stations across the province. While we agree that more stations would increase competition, we do not hold the view that a low level of competition is in itself evidence of underlying conditions that confer monopoly power on the service providers. Rather, the Panel agrees with the position put forward by some parties that the current lack of infrastructure, in particular in remote or rural areas, is a function of low demand rather than barriers to entry: all else being equal, as EV ownership goes up, demand for EV charging service will increase, thereby making the economics of EV charging stations more attractive, resulting in a build out of services. Thus, as EV ownership goes up it appears unlikely that existing service providers will be able to exert monopoly power. The relatively low equipment cost and lack of technical complexity for any new installations do not support a conclusion that there are natural barriers to entry. **We therefore find no natural monopoly conditions exist in the EV charging market.**

However, we note the argument that in less populated areas this may not be the case: demand may never reach critical mass to support a highly diversified local supply of EV charging services. The Panel considers this circumstance to be similar to the provision of other services in less populated areas, where the demand for grocery stores, gas stations and restaurants is insufficient to support the same degree of customer choice as is available in more populated areas.

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<sup>109</sup> [https://en.wikipedia.org/wiki/Natural\\_monopoly](https://en.wikipedia.org/wiki/Natural_monopoly).

Thus, with no significant artificial or natural barriers to entry, the Panel sees no indication that any operator, or group of operators, has the ability to exert monopoly power by virtue of having restricted competition: if provider A sets up a charging station on one side of a highway, nothing, other than a lack of sufficient demand, prevents provider B from setting up across the highway or down the road. In this regard, the Panel considers the EV charging market to exhibit similar characteristics to any other brick-and-mortar retail market.

For the reasons outlined above, **the Panel finds that the public EV charging market does not exhibit monopoly characteristics.**

While the Panel agrees that landlords and strata councils exert significant control over their domain, this is not the same as saying that this sector exerts monopoly power. There is no evidence suggesting that landlords and strata councils are acting in concert.

However, interveners argue that tenants or strata owners are, in some cases, denied access to charging facilities in their building parkade. Unlike a homeowner who can install a charging port on their own property, tenants and strata owners may be restricted from doing so in their own parking spot. These parties believe that the landlord or the strata council is exerting monopoly power. However, we do not agree. As is the case with a landlord potentially charging what seems to be an unsupportable charge for base rent or the provision of services such as a concierge service, a tenant with insufficient access to EV charging services is free to enter into a rental contract with other landlords who do provide EV charging access. For strata owners, an additional remedy includes persuading the strata council to change its policies, or electing a new strata council.

As previously noted, some government agencies have already taken leadership in promoting, even mandating, greater access to EV charging in rental and strata buildings.

For these reasons, **the Panel finds that the EV charging market in the rental and strata buildings sector does not exhibit monopoly characteristics.**

In making these finding we have reviewed subsection 9.2 of the BC Hydro Electric Tariff Terms and Conditions:

*If a Customer wishes to sell Electricity which the Customer has purchased from BC Hydro to a tenant of that Customer on the same Premises on a metered basis, then the Customer shall agree that the selling price for such Electricity shall not exceed the price which BC Hydro would have charged had that tenant been a Customer of BC Hydro. This requirement shall be included in an agreement for resale between BC Hydro and the Customer;*

While it may appear on the face that this is a market restriction, we note that on reading the provision in context of the rest of the Electric Tariff, we do not believe that this section applies to EV charging services in residential buildings given section 4.2.2 of the Electric Tariff.<sup>110</sup> **Accordingly, the Panel requests BC Hydro to confirm the Panel's understanding within 7 days of the issuance of this Report.**

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<sup>110</sup> <https://www.bchydro.com/content/dam/BCHydro/customer-portal/documents/corporate/tariff-filings/electric-tariff/bchydro-electric-tariff.pdf>

#### 4.0 Are providers of public EV charging services “public utilities” offering electricity “for compensation” as defined under the UCA?

As a creature of provincial statute, the BCUC has only the jurisdiction conferred upon it pursuant to the UCA and the *Clean Energy Act*. Specifically, section 23(1) of the UCA states that the BCUC “has general supervision of all public utilities”. Section 1 of the UCA defines a “public utility” in the following terms:

“public utility” means a person, or the person's lessee, trustee, receiver or liquidator, who owns or operates in British Columbia, equipment or facilities for

- (a) the production, generation, storage, transmission, sale, delivery or provision of electricity, natural gas, steam or any other agent for the production of light, heat, cold or power to or for the public or a corporation for compensation...[Emphasis added]

In the above definition, the notion of “for compensation” is an important element in determining whether an entity is operating as a public utility by offering “electricity...for the production of...power...for compensation” which makes it subject to BCUC regulation under the UCA.

The Panel will first deal with the issue of “for compensation” and then consider whether EV charging service is a public utility activity.

#### 4.1 The interpretation of “for compensation”

Section 1 of the UCA defines “compensation” as follows:

“compensation” means a rate, remuneration, gain or reward *of any kind* paid, payable, promised, demanded, received or expected, *directly or indirectly*, and includes a promise or undertaking by a public utility to provide service as consideration for, or as part of, a proposal or contract to dispose of land or any interest in it [emphasis added]

As noted in Order G-119-18, interveners at the June 27, 2018 Procedural Conference presented different interpretations of what “for compensation” means. Several examples were presented – (i) a mall provides free energy but recovers the costs from other services, (ii) the Vancouver International Airport provides free EV charging service, including DCFC stations, and the customer currently pays the posted discounted parking rates; and (iii) cafés provide to their paying customers free electricity to charge their electronic devices. The Panel determined that clarity on the issue of the “for compensation” element requires legal interpretation,<sup>111</sup> and therefore, requested submissions from interveners in their final arguments. Specifically, the Panel posed the following question:

Do the words "for compensation" in the definition of public utility mean that a person who does not expressly require customers to pay for charging services but instead recovers the cost of charging from other services provided to the customers, is a "public utility"?

In addition to the submissions on this issue, interveners also provided submissions on whether the “public utility” definition is applicable to providers of public EV charging service.

The range of views as to which situations constitute “compensation” is diverse. Some interveners are of the view that “free” EV charging service – i.e. where the person receiving the charge does not pay an explicit fee -is not considered compensation, and therefore, providers of such service are not a public utility subject to BCUC

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<sup>111</sup> Order G-119-18, Appendix A, p. 5.

regulation.<sup>112</sup> In their view, there must be some form of *quid pro quo* and that compensation must be received from the person receiving the service, i.e. there must be some form of commercial exchange<sup>113</sup>. Further, customers who partake in free EV charging service are not consumers who require protection from the exercise of economic power of a natural monopoly.<sup>114</sup> However, other interveners are of the view that “indirect compensation” exists if a person providing EV charging service is expected to be compensated indirectly through increased sale of other products and services to the receiver of the EV charging service<sup>115</sup>.

CEABC suggests that there is ambiguity in the “for compensation” concept. Both CEABC and UDI suggest that if a mall owner installs EV charging stations and provides free charging service, somebody nonetheless has had to pay for the capital and electricity costs. Therefore, the idea of “for compensation” can cover something that looks free, but actually is not. UDI and CEABC’s concerns stem from the difficulty in determining whether EV charging stations in strata buildings are being provided for compensation or not.<sup>116</sup> CEABC further submits that allowing EV charging services to be provided by an entity that is not subject to regulation may prevent it from interconnecting to the local electric utilities’ distribution system, as the owner cannot provide definitive proof as to whether it is or is not a public utility.<sup>117</sup>

By way of legal precedent on the definition of “compensation”, BC Hydro offers the case of *In the Matter of the Public Vehicles Act 1997*. In that case, a bus company, Trentway, was providing a service for “free”. A competing company, Greyhound, argued that Trentway was receiving goodwill from its service, and that goodwill fell within the meaning of “compensation” and therefore made Trentway subject to an order of the Highway Transport Board. The court, however, declined to accept the argument that goodwill fell within meaning of “compensation”<sup>118</sup> notwithstanding the broad definition of “compensation” in the *Public Vehicles Act* as including “any rate, remuneration, reimbursement or reward of any kind paid, payable or promised, or received or demanded, directly or indirectly.”<sup>119</sup>

BCSEA argues that free EV charging service is simply one attraction that vendors use to promote sales. Vendors recover the cost of these attractions through sales revenue, whether the attraction is free coffee, free parking or free EV charging.<sup>120</sup>

Interveners generally recognize that indirect compensation is difficult to define, identify, and enforce.<sup>121</sup> There could be issues in tracking how indirect costs to provide free EV charging service are passed on elsewhere, for example, malls increasing rent to tenants.<sup>122</sup> VEVA submits that determining whether EV charging stations are being provided “for compensation” or not is likely going to become more difficult as there could be new parties in the market providing EV charging stations under different business models. Some interveners suggest that the

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<sup>112</sup> Exhibit C1-5, BC Hydro final argument, p. 1; Exhibit C6-14, BCSEA final argument, p. 6.

<sup>113</sup> Exhibit C1-5, BC Hydro final argument, p. 6; Exhibit C12-5, FBC reply argument, p. 3; Exhibit C20-10, ChargePoint final argument, p. 12; Exhibit C25-11, ChargePoint reply argument, p. 6.

<sup>114</sup> Exhibit C6-14, BCSEA final argument, pp. 6, 18; Exhibit C24-20, CEC reply argument, p. 8.

<sup>115</sup> Exhibit C21-10, BCOAPO final argument, p. 4; Exhibit C4-12, p. 16.

<sup>116</sup> Transcript vol 9, CEABC, pp. 668–669; Exhibit C9-7, UDI final argument, p. 2.

<sup>117</sup> Exhibit C2-2, CEABC final argument, p. 2.

<sup>118</sup> Exhibit C1-5, BC Hydro final argument, p. 7.

<sup>119</sup> Exhibit C1-5, BC Hydro final argument, Appendix E, p. 2; Exhibit C2-2, CEABC final argument, Appendix A, p. 2.

<sup>120</sup> Exhibit C6-14, BCSEA final argument, p. 18.

<sup>121</sup> Exhibit C5-7, CoV final argument, p. 8; Exhibit C30-8, VEVA final argument, p. 4; Exhibit C35-7, Victoria EVA final argument, p. 5.

<sup>122</sup> Exhibit C9-7, UDI final argument, p. 2.

BCUC should focus on interpreting “public utility” instead. The definition of “for compensation” is a lesser concern.<sup>123</sup>

#### 4.1.1 Panel findings

**Having considered these submissions, the Panel finds that the broad definition of “compensation” in the UCA encompasses many forms of direct and indirect compensation.** The fee associated with the delivery of the energy for EV charging can conceivably take many different forms and still amount to direct or indirect “compensation”, given that there are many forms of EV charging services in the current marketplace and that different business models may further evolve.

Currently, non-utility providers of EV charging services generally either offer “free” EV charging service or levy a fee in some other manner (e.g. imposing a parking fee as opposed to a EV charging service fee). However, there are potentially numerous ways to structure the recovery of expenses incurred to provide EV charging services without levying an explicit charging fee, for example, prepaid monthly club memberships with one of the benefits being a limited number of charging sessions.

The reality of marketplace economics, though, dictates that there is seldom anything that is truly free. Even if the fee is hidden in a bundled offering, such as hotels offering free EV charging stations in their parking lots as part of the hotel benefits, the costs associated with that offering are likely factored into the room rates so as to amount to indirect compensation. Similarly, an owner or operator of an EV charging station that does not impose a separate fee for the services but recoups the costs of those services by selling advertising space on its EV charging locations, is receiving indirect compensation from third parties albeit not from EV customers.

**The Panel finds that all of the above examples fall within the definition of indirect compensation under the UCA.**

#### 4.2 Public utility status

FBC submits that in the AES Inquiry the BCUC held “that a strict, literal interpretation of the definition of ‘public utility’ in the UCA could lead to an absurd result such that a host of services and technologies that are available in a competitive marketplace would require regulation.”<sup>124</sup> Citing the example of the store selling flashlight batteries, BCSEA submits that the BCUC has the authority and responsibility to interpret the definition of public utility in the context of the purpose of the UCA, and find that entity not to be a public utility as the UCA does not intend economic regulation on the sale of flashlight batteries. BCSEA recommends the same approach applies to EV charging services.<sup>125</sup>

Some interveners questioned whether EV charging services would fall under the definition of “public utility” at all. They view that a determination that EV charging stations ought not to be considered a “public utility” would provide market clarity and certainty.<sup>126</sup>

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<sup>123</sup> Exhibit C30-8, VEVA final argument, p. 5; Exhibit C25-11, ChargePoint reply argument, p. 6.

<sup>124</sup> Exhibit C12-4, FBC final argument, p. 4, AES Inquiry Report, December 27, 2012, BCUC Order G-201-12, p. 15.

<sup>125</sup> Exhibit C6-15, BCSEA reply argument, pp. 3–4.

<sup>126</sup> Exhibit C24-20, CEC final argument, p. 5; Exhibit C24-20, CEC reply argument, p. 2.

Tesla argues that EVs store chemical battery charge for mobility and transportation, and not producing light, heat, cold or power, unlike the electricity delivered to a home.<sup>127</sup> According to Tesla, electricity is not sold at EV charging stations because there is no transaction for a rate of electricity, for instance, kilowatt hours. The current time-based business model does not fall under the UCA or additional BCUC regulation.<sup>128</sup>

Tesla further suggests that BCUC should defer its interpretation of the UCA until the Cabinet has an opportunity to consider the significant public policy implications that will be associated with regulation.<sup>129</sup> However, some interveners oppose and view that further delays could hinder EV charging station deployment efforts and further stifle EV adoption<sup>130</sup> and that findings from the Inquiry will help to inform future Government policy decisions regarding the regulation of EV charging.<sup>131</sup>

#### 4.2.1 Panel findings

Section 1 of the UCA provides a broad definition of public utility. By this definition, any person who owns or operates equipment or facilities for .... the ... sale, delivery or provision of electricity .... to or for the public or a corporation for compensation is a public utility.

A strict reading of this definition would capture a convenience store selling batteries and thereby make the sale of such batteries subject to BCUC regulation. We agree with the conclusions of the AES Inquiry Report that this result is highly unlikely to be the intent of the UCA. The Panel finds support for this conclusion in the case of *Rizzo & Rizzo Shoes Ltd. (Re)*, [1978] 1 SCR 27, in which the majority of the Supreme Court of Canada rejected the proposition that statutory interpretation is limited to the wording of the legislation alone. Instead, the majority adopted the following approach, citing Elmer Driedger in *Construction of Statutes* (2<sup>nd</sup> edition, 1983) at page 87:

Today there is only one principle or approach, namely, the words of an Act are to be read in their entire context and in their grammatical and ordinary sense harmoniously with the scheme of the Act, the object of the Act, and the intention of Parliament.

The majority of the Court elaborated on that approach at paragraph 27 as follows:

It is a well established principle of statutory interpretation that the legislature does not intend to produce absurd consequences....an interpretation can be considered absurd if it leads to ridiculous or frivolous consequences, if it is extremely unreasonable or inequitable, if it is illogical or incoherent, or if it is incompatible with other provisions or with the object of the legislative enactment...

In Order G-104-18, SSL Status as a Public Utility, the BCUC stated:

.... the object of the UCA is the protection of the public interest by regulating public utilities to ensure that they provide safe and reliable service at reasonable prices. Public utilities tend to operate in monopolistic circumstances which could lead to monopolistic abuse of ratepayers.

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<sup>127</sup> Exhibit C28-6, Tesla final argument, p. 5.

<sup>128</sup> Exhibit C28-6, Tesla final argument, p. 10.

<sup>129</sup> Exhibit C28-6, Tesla final argument, p. 15.

<sup>130</sup> Exhibit C12-5, FBC reply argument, p. 7.

<sup>131</sup> Exhibit C19-11, MEM reply argument, pp. 3–4.



The BCUC regulates public utilities to ensure that the prices they charge to customers, who are often captive, are reasonable for the level of service provided.

We agree with this interpretation of the object of the UCA and we will consider the definition of public utility in this context. We will also consider subsequent determinations made by the BCUC on the issue of public utility status.

In this Report, we also distinguish between an “exclusion” versus an “exemption”. An exclusion from the definition of a public utility means that a person is not public utility by virtue of the exclusion. An exemption from regulation on the other hand, means that the person is a public utility, but has been granted relief from some specified section(s) of the UCA by virtue of the exemption.

A municipality or regional district providing service within its own boundaries is specifically excluded from the definition of public utility. Similarly, the UCA also excludes from the definition of public utility “a person not otherwise a public utility who provides the service or commodity only to the person or the person’s employees or tenants, if the service or commodity is not resold to or used by others.” Further, the UCA states that tenant “does not include a lessee for a term of more than 5 years”.

From this, two conclusions can be drawn:

1. Landlords providing electricity, for direct or indirect compensation, to tenants with a lease term of more than 5 years are public utilities.<sup>132</sup>
2. Landlords and employers providing electricity to employees and tenants with a lease term of no more than 5 years would otherwise be public utilities if it were not for this exclusion. Otherwise, this exclusion would not be required.

In 2012, the BCUC reviewed this exception and recommended a further exemption for persons with lessees that are:

- (a) a telecommunication service provider, and
- (b) leasing the person's premises so that the tenant can operate and maintain telecommunications equipment, devices and facilities for the purpose of carrying on business as a telecommunications service provider.<sup>133</sup>

The “Bakerview exemption,” as previously noted in this Report was provided by the Lieutenant Governor in Council (LGIC), upon recommendation by the BCUC, for Bakerview EcoDairy the operator of an EV DCFC station. As noted in BCUC Order G-71-16, Bakerview EcoDairy operates as a reseller of electricity to the public for compensation as a public utility as defined by the UCA. **It is clear from this exemption that the BCUC already considers that a person providing EV charging services for compensation is a public utility and the Panel finds no reason to change that approach.**

However, in making this finding, we also note the exemption provided to Bakerview EcoDairy. This exemption is consistent with a finding that that the exempt services do not fall within the object of the UCA – which, as

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<sup>132</sup> There is a further Ministerial exemption provided to some landlords with tenants with leases longer than 5 years that will be discussed below.

<sup>133</sup> <https://www.bcuc.com/Documents/SpecialDirections/2012/OIC-368-StrataPlan-Sale.pdf>

G-104-18 stated, is to protect captive customers from utilities with monopoly power. Therefore, in the following section we examine whether a class exemption for EV charging services is appropriate.

## 5.0 Regulatory framework for persons not otherwise public utilities

Having previously found that the provision of EV charging services renders the provider a public utility, we will now consider the degree of regulation, if any, that those public utilities be subject with respect to EV charging activities.

The public EV charging market is currently served by the following two distinct classes of providers.

1. Persons providing public EV charging services for compensation that are not otherwise public utilities (e.g. Bakerview EcoDairy);
2. Persons providing public EV charging services for compensation that are otherwise public utilities (e.g. BC Hydro or FBC).

In this section we address EV charging service providers in group 1 above. We will address entities that are otherwise public utilities in subsequent sections of this Report.

### 5.1 Need for regulation

The Panel sought submissions from interveners on the following question:

*Should entities not otherwise public utilities supplying electricity to EV end users be regulated at all?*

In order to facilitate interveners' submissions on this question, the Panel invited interveners to provide arguments on the following strawman regulatory framework:

Entities not otherwise public utilities will, with respect to the provision of electric vehicle charging services, be exempt from Part 3 of the UCA except for sections 25, 26, 38, 42, 43, 44, and 49. Entities that are otherwise public utilities may apply for BCUC approval to provide regulated EV charging services.

The Panel stated that it considered that it would be helpful for interveners to argue their positions in terms of the strawman framework, including any merits, and implications that the BCUC should take into consideration. The strawman regulatory framework mirrors the recent exemption provided for Bakerview EcoDairy.<sup>134</sup>

### 5.2 Positions of interveners

Some interveners consider that entities that are not otherwise public utilities should be exempt from all sections of the UCA without exception, and therefore not subjected to regulation from the BCUC. A number of interveners view that full exemption is appropriate because the EV charging service market is competitive and EV charging station owners do not exercise market power<sup>135</sup> (see also Section 3.0 of Report). Several submissions note that regulation will create barriers to entry in the EV market and deter investment due to the

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<sup>134</sup> See section 2.2.1 for more details about Bakerview EcoDairy.

<sup>135</sup> Exhibit C2-2, CEABC evidence, p. 1; Exhibit C25-10, ChargePoint final argument, pp. 5–7, 10; Exhibit C28-6, Tesla final argument, p. 2.

time and cost of compliance and uncertainty over the interpretation of the applicable legislation.<sup>136</sup> Additionally, Tesla submits that more sophisticated and well-resourced companies may be able to take on regulatory obligations, while smaller companies may lack the requisite resources or technical knowledge, and notes that EV charging service operators are already regulated by several other entities.<sup>137</sup> CEABC submits that comparable regulatory oversight does not exist for gasoline service stations.<sup>138</sup>

Other interveners generally support the principle of an exemption from Part 3 of the UCA with the exception of certain sections, in line with or similar to the strawman regulatory framework.<sup>139</sup> Some interveners noted that a degree of regulation is appropriate on the basis of consumer protection, safety, reliability, the regulatory provisions not imposing significant burden, and the market not being fully competitive.<sup>140</sup>

Some interveners view that there could be a distinction in the degree of regulation for different categories of EV charging services, most notably that DCFC service.<sup>141</sup> DCFC charging service providers should be subject to fewer exemptions from the UCA than Level 1 and 2 EV charging service providers due to the more developed and competitive market for Level 1 and 2 EV charging service.<sup>142</sup> Victoria EVA suggests that DCFC regulation should be in the form of an upper price cap.<sup>143</sup> CEA notes that DCFC regulation would ensure small communities have a dispute resolution mechanism.<sup>144</sup> However, there were a number of submissions that did not favour the segmentation of regulation based on charging levels, due to issues where different types of chargers are co-located at the same facility, different charging types being substitutable for each other, and that attempting to customize the degree of exemption by sub-class would likely be ineffective or impractical.<sup>145</sup> Submissions with respect to the regulatory treatment of landlords and strata corporations are address later in this section.

Intervener evidence also addressed the appropriateness of excluding specific sections of the UCA in a potential exemption for entities not otherwise public utilities, which is discussed below.

### *Regulation of safety, standards and reliability*

A number of interveners highlight that there are other authorities governing aspects of safety and reliability with respect to EV charging stations equipment, outside of the purview of the BCUC, including:

- *Safety Standards Act* and Electrical Safety Regulation, administered by Technical and Safety BC and eight local governments. The Electrical Safety Regulation does not apply to “public utilities” under the UCA;<sup>146</sup>

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<sup>136</sup> Exhibit C16-5, Guthrie final argument, p. 2; Exhibit C25-10, ChargePoint final argument, pp. 7–8; Exhibit C28-6, Tesla final argument, p. 7; Exhibit C30-8, VEVA final argument, p. 6.

<sup>137</sup> Exhibit C28-6, Tesla final argument, pp. 7, 9.

<sup>138</sup> Exhibit C2-2, CEABC final argument, p. 1.

<sup>139</sup> Exhibit C1-5, BC Hydro final argument, pp. 14–15; Exhibit C5-7, CoV final argument, p. 1; Exhibit C6-14, BCSEA final argument, p. 7; Exhibit C9-7, UDI final argument, p. 1; Exhibit C12-4, FBC final argument, p. 2; Exhibit C15-5, Greenlots final argument, p. 5; Exhibit C20-6, ATI final argument, p. 1; Exhibit C21-10, BCOAPO final argument, p. 8; Exhibit C24-19 final argument, CEC, p. 24.

<sup>140</sup> Exhibit C15-5, Greenlots final argument, p. 4; Exhibit C19-10, MEMPR final argument, pp. 5–6; Exhibit C21-10, BCOAPO final argument, p. 7; Exhibit C24-19, CEC final argument, p. 24.

<sup>141</sup> And any future levels of charging.

<sup>142</sup> See: Exhibit C19-10, MEMPR final argument, pp. 4–5; Exhibit C34-6, CEA final argument, p. 2; Exhibit C35-7, Victoria EVA final argument, p. 4.

<sup>143</sup> Exhibit C35-7, Victoria final argument EVA, p. 2.

<sup>144</sup> Exhibit C34-6, CEA final argument, p. 2.

<sup>145</sup> Exhibit C25-10, ChargePoint final argument, p. 10; Exhibit C24-20, CEC reply argument, p. 11; Exhibit C6-14, BCSEA final argument, p. 7.

<sup>146</sup> Exhibit C19-2, MEMPR evidence, p. 7.

- Canadian Standards Association’s Canadian Electrical Code, adopted by Technical and Safety BC,<sup>147</sup>
- Underwriters Laboratories Canada standards;<sup>148</sup>
- Measurement Canada (although at present, there is no standard for DCFC meters);<sup>149</sup>
- Local government bylaws;<sup>150</sup>
- SAE [Society of Automotive Engineers] J1772 standard;<sup>151</sup>
- *Business Practices and Consumer Protection Act* [SBC 2004]; and
- The federal *Competition Act* [RSC 1985].<sup>152</sup>

A number of interveners view that the regulatory framework should not include regulation under sections 25, 26 and 38 of the UCA for entities not otherwise public utilities. Some submissions note that the setting of standards by the BCUC could limit market opportunities, and lead to significant costs for EV charging service providers,<sup>153</sup> though CEC submits that section 26 of the UCA would allow for regulation on a complaints basis without interfering with market technology and development.<sup>154</sup> Some interveners submit that the competitive market should have the ability to set rates, and to pick winners and losers with respect to the delivery of a reliable service.<sup>155</sup> Some interveners also question whether the BCUC has the resources to deal with safety matters pertaining to EV charging service if this aspect of the market were to be regulated by the BCUC.<sup>156</sup> BSSI submits that no regulation downstream of the customer meter is required, as the safety of EV charging has been demonstrated to be at least equivalent to the dispensing of conventional vehicle fuels.<sup>157</sup>

Some interveners identified potential areas where regulation of safety and standards may be required. CoV submits that the safety of EV charging service must be regulated to avoid personal injury and property damage, with a preference for a provincial body to offer guidance and consistency, though this may not necessarily be the BCUC.<sup>158</sup> MEMPR notes that maintenance or operation standards for reliability of EV charging stations currently fall outside any regulation, and that no government entity currently has the mandate or expertise to develop and enforce such regulation.<sup>159</sup>

Flintoff submits that if EV charging service providers are not public utilities then safety matters are under the jurisdiction of Technical Safety BC; if they are, the Electrical Safety Regulation does not apply, meaning permits and inspections of construction could be avoided, providing justification for sections 25, 26 and 38 of the UCA to apply.<sup>160</sup> However, MEMPR submits that Technical Safety BC has advised MEMPR that it considers EV charging

<sup>147</sup> Exhibit C1-4, BC Hydro response to BCUC IR 1.4.3.

<sup>148</sup> Exhibit C12-3, FBC response to BCUC IR 6.6.

<sup>149</sup> Exhibit C1-2, BC Hydro evidence, p. 7; Exhibit C12-2, FBC evidence, p. 16; Exhibit C19-2, MEMPR evidence, p. 7; Exhibit C28-6, Tesla final argument, p. 11; Exhibit C20-2 evidence, ATI, p. 7.

<sup>150</sup> Exhibit C19-2, MEMPR evidence, p. 7; Exhibit C5-3, CoV response to BCUC IR 1.2.

<sup>151</sup> Exhibit C1-2, BC Hydro evidence, p. 2. SAE J1772 defines a standard connector and communications protocol for AC charging of EVs.

<sup>152</sup> Exhibit C28-3, Tesla response to BCUC IR2.1.

<sup>153</sup> Exhibit C19-10, MEMPR final argument, p. 5; Exhibit C28-6, Tesla final argument, p. 11.

<sup>154</sup> Exhibit C25-11 reply argument, p. 4.

<sup>155</sup> Exhibit C6-14, BCSEA final argument, p. 36; Exhibit C28-6, Tesla final argument, p. 11; Exhibit C30-8, VEVA final argument, pp. 9-10; Exhibit C5-5, CoV IR response, to ChargePoint IR 3.1

<sup>156</sup> Exhibit C16-5, Guthrie final argument, p. 2; Exhibit C30-8, VEVA final argument, p. 9.

<sup>157</sup> Exhibit C23-2, BrightSide evidence, p. 2.

<sup>158</sup> Exhibit C5-2, CoV evidence, p. 12; Exhibit C5-5, CoV response to ChargePoint IR 1.1.

<sup>159</sup> Exhibit C19-5, MEMPR response to BCUC IR 1.1.

<sup>160</sup> Exhibit C4-11, Flintoff final argument, pp. 17-19.

stations to fall outside of a public utility's generation, transmission and distribution system and therefore the Electrical Safety Regulation applies to the installation and operation of an EV charging station.<sup>161</sup>

BC Hydro submits that safety issues would be better addressed in phase 2 because it is outside of the scope of phase 1 issues and there is a lack of evidence on record to support a review at this stage.<sup>162</sup>

### *Reporting and information requirements*

Some parties view the inclusion of the requirements under sections 43, 44 and 49 of the UCA will add significant burden and cost to affected entities, presenting a barrier to entry into the EV charging services market, particularly for new entrants.<sup>163</sup> Some interveners are concerned that such reporting requirements could require private entities to reveal potentially commercially sensitive or confidential information.<sup>164</sup> BC Hydro submits that the BCUC's residual jurisdiction should focus on information gathering to determine how and when the degree of regulatory oversight might have to change as the market evolves.<sup>165</sup>

Flintoff submits that section 42 of the UCA must apply to ensure compliance of lawful orders issued by the BCUC.<sup>166</sup> However, Tesla submits that it is not appropriate to issue orders regarding sites that are not ratepayer funded,<sup>167</sup> and VEVA considers that it would create administrative burden without a demonstrated net benefit to the public.<sup>168</sup>

### *Other potentially applicable sections of the UCA*

Some submissions identified additional sections of the UCA that should be excluded from an exemption for entities not otherwise public utilities that were not included in the BCUC straw man regulatory framework. CEC suggests that sections 21 and 23 enable Part 3 of the UCA, and BCUC's ability to address complaints, respectively.

BC Hydro, FBC and CEC submit that an exemption should exclude section 24 of the UCA (BCUC must make examinations and inquiries), to allow the BCUC to keep informed on the EV sector and protect the public.<sup>169</sup>

BCOAPO considers that section 39 of the UCA (No discrimination or delay in service) is important in circumstances where the number of EV charging stations is limited, and that the BCUC should outline that complaints could lead to exemptions from rate setting sections of the UCA being revoked.<sup>170</sup>

Flintoff submits that the BCUC may wish to retain authority over section 58 of the UCA to avoid price gouging.<sup>171</sup>

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<sup>161</sup> Exhibit C19-11 reply argument, p. 2

<sup>162</sup> Exhibit C1-6 BC Hydro reply argument, p. 16.

<sup>163</sup> Exhibit C4-11, Flintoff final argument, pp. 21–22; Exhibit C20-6, ATI final argument, pp. 1–2; Exhibit C25-10, ChargePoint final argument, p. 12.

<sup>164</sup> Exhibit C28-6, Tesla final argument, p. 12; Exhibit C35-7, Victoria EVA final argument, p. 3.

<sup>165</sup> Exhibit C1-5, BC Hydro final argument, p. 15.

<sup>166</sup> Exhibit C4-11 Flintoff final argument, p. 19.

<sup>167</sup> Exhibit C28-6, Tesla final argument, p. 12.

<sup>168</sup> Exhibit C30-8, VEVA final argument p. 10.

<sup>169</sup> Exhibit C1-5, BC Hydro final argument, pp. 14–15; Exhibit C12-4, FBC final argument, p. 2; Exhibit C24-19, CEC final argument, p. 28.

<sup>170</sup> Exhibit C21-10, BCOAPO final argument, pp. 8–9.

<sup>171</sup> Exhibit C4-11, Flintoff final argument, pp. 22–23.

CoV and CEABC submit that the framework should include an exemption from section 71 of the UCA (energy supply contracts).<sup>172</sup> The requirement to file energy supply contracts was not designed for EV charging services and would be an unnecessary regulatory burden.<sup>173</sup> BC Hydro views that energy supply contracts are generally understood to be wholesale (and not retail) contracts. Therefore, including section 71 as an exception in the proposed Exemption Order may not be necessary.<sup>174</sup>

### *Landlords and strata corporations*

The Victoria EVA assessed the benefits and detriments to regulate and not regulate MURB EV charging. Victoria EVA concludes that regulation would provide energy cost transparency, but the BCUC approval process could be expensive and an unregulated environment may potentially lead to faster implementation and flexibility in cost structures.<sup>175</sup>

CoV, BCSEA, ChargePoint and CEA argue that while there is a degree of captivity for strata owners or tenants tied to a specific charging service, legislation governing residential tenancy and strata corporations provides an adequate framework to address any future disputes that may arise. They argue that being captive to a strata corporation is not the same as being captive to the EV charging market, as those EV drivers may choose to charge at a different location. These parties expressed their support for an exemption for Level 1/Level 2 charging services provided by a strata corporation to its residents and owners.<sup>176</sup> No submissions were received which opposed this view.

## **5.3 Panel findings**

### **5.3.1 Appropriate degree of regulation of providers of EV charging services**

In a recent BCUC decision, the BCUC stated:<sup>177</sup>

The scheme of the UCA acknowledges that there may be circumstances where an entity is caught by the definition of public utility yet the rationale for regulation is not compelling because the public utility has little or no ability to exercise monopolistic behaviour to the detriment of ratepayers and the public interest. In those situations, the UCA allows the BCUC, with the advance approval of the responsible Minister, to grant exemptions in whole or in part from regulation under the statute.

Economic regulation of monopoly utilities serves as a proxy for the free market. However, as stated in the AES Inquiry Report, it is not a regime that should be imposed by the regulator if a bona fide free market exists.

In Section 3 of this report, we reviewed the current state of the EV charging market. In our review, we found no monopoly characteristics.

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<sup>172</sup> Exhibit C5-7, CoV Final Argument, p. 1; Exhibit C2-3, CEABC reply argument, p. 6

<sup>173</sup> Exhibit C5-7, CoV Final Argument, p. 1

<sup>174</sup> Exhibit C1-6, BC Hydro reply argument, pp. 13-14

<sup>175</sup> Exhibit C35-2, Victoria EVA evidence, p. 15.

<sup>176</sup> Exhibit C6-14, BCSEA p. 25; Exhibit C25-10, ChargePoint final argument, p. 7; Exhibit C34-6, CEA final argument, p. 1; Exhibit C5-7, CoV final argument, pp. 7-8.

<sup>177</sup> Order G-104-18.

Some interveners argue there is a distinction to be made between the Level 1/Level 2 charging market and the DCFC market and that therefore different regulatory regimes may be appropriate. We have reviewed both markets and found no monopoly characteristics exist in either. DCFC stations are not as readily available, but that can be explained by their higher infrastructure costs and the fact that the EV market itself is not yet mature enough to support a more significant network of these charging stations.

Further, given the potential for ongoing evolution and significant technology changes, it is very likely that improved EV charging services will enter the market in the near future. We are of the view that this evolution itself, is part of and, results from a competitive market.

**Accordingly, the Panel finds that economic regulation is not required of persons who are not otherwise public utilities who provide EV charging services. More specifically, we recommend an exemption from those portions of the UCA applicable to price regulation, namely sections 59-61 of the UCA.**

Some interveners submit that the regulatory framework should include an exemption from section 71 of the UCA relating to energy supply contracts. The Panel disagrees. **We find section 71 of the UCA is not applicable, and therefore an exemption is unnecessary.** Because EV charging service providers buy electricity from a public utility (e.g. BC Hydro and FBC), the sale of electricity would be transacted via a BCUC approved utility tariff rather than an energy supply contract. Thus, an energy supply contract does not exist between the EV charging service provider (customer) and the electric utility (seller).

**We also find that in a competitive market, parties should be free to develop new infrastructure as they see fit, subject only to any environmental, zoning or other applicable approvals. There is no regulatory justification for the requirement of a certificate of public convenience and necessity (CPCN) and accordingly we recommend an exemption from section 45 of the UCA.**

These findings are consistent with the key principles that were adopted by the BCUC in the AES Inquiry Report – that the BCUC should only regulate where necessary, and that regulation should not impede competitive markets.

We now consider exemption from regulation of other aspects of service including: safety, reliability and the obligation to serve.

### **5.3.2 Scope of the exemption**

A number of issues were raised by interveners including the need to:

1. increase accessibility to EV infrastructure by increasing the number of ports in any given location,
2. increase accessibility to EV infrastructure by increasing the number of locations at which charging stations are available,
3. enhance ancillary services (such as washrooms or snack bars),
4. oversee reliability of the infrastructure,
5. set standards, or
6. subsidize prices.

We now consider each of these issues. In so doing, we consider what form of regulation, if any, is appropriate for the BCUC to exercise, given our previous finding that no economic regulation is required since no monopoly market exists. Where applicable, we address issues in the context of those sections of the UCA that would potentially provide the BCUC with jurisdiction in that area.

*Increase accessibility to EV infrastructure by increasing the number of ports in any given location; increase accessibility to EV infrastructure by increasing the number of locations at which charging stations are available.*

The Panel understands that this concern applies to all types of charging infrastructure, but in particular DCFC in remote areas.

Section 30 of the UCA may apply with respect to increasing the number of locations at which EV charging stations are available. This section states:

If the commission, after a hearing, determines that

- (a) an extension of the existing services of a public utility, in a general area that the public utility may properly be considered responsible for developing, is feasible and required in the public interest, and
  - (b) the construction and maintenance of the extension will not necessitate a substantial increase in rates chargeable, or a decrease in services provided, by the utility elsewhere,
- the commission may order the utility to make the extension on terms the commission directs, which may include payment of all or part of the cost by the persons affected.

Given the finding that there is no natural monopoly, there is no “general area that the public utility may properly be considered responsible for developing”, if the service provider is not otherwise a public utility. There is no natural franchise area for such a public utility and for the BCUC to establish a monopoly franchise area would be, in the Panel’s opinion, problematic.

Given the lack of a franchise area, it would be difficult to determine which EV charging service provider should be so ordered to provide service – further it is questionable whether the BCUC would have the jurisdiction to so order.

Section 38 and some portions of section 25 of the UCA are also relevant to this issue. Section 38 - public utility must provide service and section 25 - BCUC may order improved service to ensure that customers receive service that is adequate, safe, efficient, just and reasonable. Section 38 requires public utilities to provide such service and section 25 authorizes the BCUC to order improved service if, after a hearing, it finds such an order is warranted. Sections 25 and 38 are shown below:

**Section 25 - Commission may order improved service**

If the commission, after a hearing held on its own motion or on complaint, finds that the service of a public utility is unreasonable, unsafe, inadequate or unreasonably discriminatory, the commission must

- (a) determine what is reasonable, safe, adequate and fair service, and
- (b) order the utility to provide it.



### **Section 38 - Public utility must provide service**

A public utility must

(a) provide, and

(b) maintain its property and equipment in a condition to enable it to provide,

a service to the public that the commission considers is in all respects adequate, safe, efficient, just and reasonable.

In our view, in a competitive market, there should be no requirement to provide service or any imposed conditions on the nature of that service. The obligation to serve arises in a monopoly market - a utility has an obligation to serve customers in its franchise area. However, in a competitive market, participation is entirely voluntary generally there is no regulatory obligation to serve anyone in any particular manner.

Further, as a practical matter, in a competitive environment, with multiple suppliers in any geographical area, there is no way to determine exactly which supplier should provide any given service. Therefore, there is no reason for any EV charging service provider to be required to provide service, nor is there any reason for the BCUC to order such service, provided a functional competitive market exists. As CEABC points out, "there is no such oversight with respect to the sale of gasoline."

On a related matter, the evidence provided in this Inquiry shows that the problem of EV charging stations with inoperable equipment is common. If there is a competitive market why does this circumstance occur? Further, would it be appropriate for the BCUC to hold a hearing and, if this inadequate service is confirmed, to order which service provider to remedy the situation?

The Panel has previously noted that while a monopoly does not exist, the EV charging service market is immature. EV charging service providers appear to be reluctant to invest in infrastructure to the extent required to remedy the shortcomings noted by EV drivers. A number of interveners suggest that one reason for this is the uncertainty inherent in the regulatory regime and another is the ability to recover the cost of expensive EV charging infrastructure.

At issue then, is whether, in the absence of a mature market, in order to provide a higher quality service to EV customers, the BCUC should retain the authority to order improvements in service. If the BCUC retains the authority provided under section 25 of the UCA, a hearing could be held to determine whether the EV charging service at any particular location is adequate and, if it is found not to be, order the utility to provide adequate service.

However, it is the Panel's view that exercising this authority in this circumstance would be problematic. The provider simply needs to argue that they cannot afford to provide the service and that there are other providers that can. In a free market, there should be no obligation for any seller to provide a particular good or service.

**Therefore, the Panel finds that regulation is not required of persons who are not otherwise public utilities who provide EV charging services, as it relates to section 30 and those portions of section 25 and 38 of the UCA applicable to adequate, efficient, just, reasonable and non-discriminatory service.**

### *Enhance ancillary services (such as washrooms or snack bars)*

It is the Panel's understanding that this concern largely applies to Levels 2 and DCFC infrastructure. Level 1 charging is typically associated with home, work and shopping centres where access to these services is not an issue.

A number of parties have complained that, unlike a typical gasoline/diesel fuelling station, EV charging stations generally have no ancillary services provided.

While the Panel sympathizes with these sentiments, **the Panel finds that the UCA provides no jurisdiction for the BCUC to regulate, or order the provision of, such ancillary services.**

### *Oversee reliability of the infrastructure*

Parties have pointed out that some EV charging infrastructure is often inoperable. Section 25 of the UCA provides the BCUC, if it finds the service inadequate, with the authority to order a utility to provide adequate service.

BCSEA submits that the retention of section 25 of the UCA is not desirable because the objective is better met by competition and that the retention of this clause would discourage the provision of EV charging service.<sup>178</sup> A number of interveners take a similar view, including VEVA, CEABC and ChargePoint.

The Panel agrees that in a mature market, oversight of this nature is, in all likelihood unwarranted. In an open, competitive market, providers are incented to provide service that their customers consider appropriate, otherwise they risk losing customers. **Therefore, the Panel finds that regulation is not required of persons who are not otherwise public utilities who provide EV charging services, as it relates to section 25 of the UCA applicable to adequate and non-discriminatory service.**

### *Set standards*

Section 26 of the UCA provides that the BCUC may set standards. Section 26 is shown below:

#### **Section 26 - Commission may set standards**

After a hearing held on the commission's own motion or on complaint, the commission may do one or more of the following:

- (a) determine and set just and reasonable standards, classifications, rules, practices or service to be used by a public utility;
- (b) determine and set adequate and reasonable standard for measuring quantity, quality, pressure, initial voltage or other conditions of supplying service;
- (c) prescribe reasonable regulations for examining, testing or measuring a service;
- (d) establish or approve reasonable standards for accuracy of meters and other measurement appliances;
- (e) provide for the examination and testing of appliances used to measure a service of a utility.

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<sup>178</sup> Exhibit C6-14, BCSEA final argument, p. 36.

The Panel notes the submissions of interveners expressing concern over potential BCUC oversight of standards. In particular, MEMPR’s concern about setting standards that “may limit opportunities for entities to enter the DC fast-charging market.”<sup>179</sup> The Panel shares this concern.

Many standards referred to in this section are under the jurisdiction of other authorities – e.g. Measurement Canada has responsibility for standards related to the measurement of quantity, CSA and UL set standards relate to voltages and other electrical quantities. Further, with respect to measurement standards the Panel notes that no standards currently exist regarding the flow of electrical energy through an EV charging station. In any event, remedies for disputes over measurement can be found in the courts and in a free market, customers who are not satisfied with the way an EV charging station operates can use a different service provider.

**The Panel finds that regulation under section 26 of the UCA is not required of persons who are not otherwise public utilities who provide EV charging service.**

### *Subsidies*

During the Inquiry, concern was expressed that the reason for the lack of development of EV charging infrastructure is the lack of profitability for market participants – there would be greater motivation to invest in the market if the potential for economic reward was greater. Access to a subsidy would provide greater incentive to invest in EV charging infrastructure.

There have been a number of submissions suggesting it may be appropriate for companies that are already public utilities – i.e. BC Hydro and FBC – to subsidize the development of EV charging infrastructure. In this scenario, presumably the source of the subsidy will be utility customers – EV and non-EV customers alike. However, for many providers that are not already public utilities, it is not clear how this would benefit EV customers –, the only source of support for the subsidy are the EV customers themselves, or the provider’s shareholders.

The Panel will deal with this issue in the second phase of this Inquiry.

### **5.3.3 Remaining issues regarding the regulatory framework**

#### *Sections 25 and 38 – Safety Regulation*

Generally speaking, portions of sections 25 and 38 of the UCA provide the BCUC with the authority to regulate the safety of public utilities. Section 37 of the UCA enables the BCUC to appoint a supervisor or inspector to establish and carry out measure for the safety of the public and of the users of the utility’s service. In many cases, this authority is either delegated to, or is duplicated in the legislation of, Technical Safety BC. MEMPR submits:

Section 3 of the Electrical Safety Regulation states that the regulation “does not apply to a public utility as defined in the UCA in the exercise of its function as a utility with respect to the generation, transmission and distribution of electrical energy” (underlining added). Technical Safety BC has advised MEMPR that it considers EV charging stations to fall outside of a public utility’s generation, transmission and distribution system and therefore the requirements of the

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<sup>179</sup> Exhibit C19-10, MEMPR final arguments, p. 6.

Electrical Safety Regulation always apply to the installation and operation of an EV charging station. Technical Safety BC also advises that delegated local governments share this interpretation.<sup>180</sup>

Section 3 of the Electric Safety Regulation states that it “does not apply to a public utility as defined in the *Utilities Commission Act* in the exercise of its function as a utility with respect to the generation, transmission and distribution of electrical energy”.<sup>181</sup> Further “distribution equipment” is a defined term in the UCA. Although it seems clear that EV charging equipment is not “generation or transmission”, we do not make any finding at this time on whether EV charging infrastructure is “distribution.” We invite submissions on this issue in Phase 2.

Until jurisdiction for safety is clarified, we want to ensure that safety regulation does not ‘fall between the cracks.’ Therefore, **we recommend that sections 25 and 38, with respect to safety only, not be included in the Part 3 exemption.**

*Section 42 - Duty to obey orders, Section 43 - Duty to provide information, Section 44 - Duty to keep records and Section 49 - Accounts and reports.*

In addition to the issues discussed above, the Panel requested submissions on the retention of sections 42, 43, 44 and 49 of the UCA. We now consider these sections. These sections are shown below:

**Section 42 - Duty to obey orders**

A public utility must obey the lawful orders of the commission made under this Act for its business or service, and must do all things necessary to secure observance of those orders by its officers, agents and employees.

**Section 43 - Duty to provide information**

(1) A public utility must, for the purposes of this Act,

- a. answer specifically all questions of the commission, and
- b. provide to the commission
  - i. the information the commission requires, and
  - ii. a report, submitted annually and in the manner the commission requires, regarding the demand-side measures taken by the public utility during the period addressed by the report, and the effectiveness of those measures.

(2) A public utility that receives from the commission any form of return must fully and correctly answer each question in the return and deliver it to the commission.

(3) On request by the commission, a public utility must deliver to the commission

- (a) all profiles, contracts, reports of engineers, accounts and records in its possession or control relating in any way to its property or service or affecting its business, or verified copies of them, and
- (b) complete inventories of the utility's property in the form the commission directs.

(4) On request by the commission, a public utility must file with the commission a statement in writing setting out the name, title of office, post office address and the authority, powers and duties of

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<sup>180</sup> Exhibit C19-10, MEMPR reply argument, p. 2.

<sup>181</sup> With the exception of section 3.1, which is not consequential to this discussion.

- (a) every member of the board of directors and the executive committee,
- (b) every trustee, superintendent, chief or head of construction or operation, or of any department, branch, division or line of construction or operation, and
- (c) other officers of the utility.

(5) The statement required under subsection (4) must be filed in a form that discloses the source and origin of each administrative act, rule, decision, order or other action of the utility.

#### **Section 44 - Duty to keep records**

- 1) A public utility must have in British Columbia an office in which it must keep all accounts and records required by the commission to be kept in British Columbia.
- 2) A public utility must not remove or permit to be removed from British Columbia an account or record required to be kept under subsection (1), except on conditions specified by the commission.

#### **Section 49 - Accounts and reports**

The commission may, by order, require every public utility to do one or more of the following:

- (a) keep the records and accounts of the conduct of the utility's business that the commission may specify, and for public utilities of the same class, adopt a uniform system of accounting specified by the commission;
- (b) provide, at the times and in the form and manner the commission specifies, a detailed report of finances and operations, verified as specified;
- (c) file with the commission, at the times and in the form and manner the commission specifies, a report of every accident occurring to or on the plant, equipment or other property of the utility, if the accident is of such nature as to endanger the safety, health or property of any person;
- (d) obtain from a board, tribunal, municipal or other body or official having jurisdiction or authority, permission, if necessary, to undertake or carry on a work or service ordered by the commission to be undertaken or carried on that is contingent on the permission.

Given the broad scope of the recommended exemption, the Panel consider that the regulatory benefit of retaining jurisdiction on these sections of the UCA does not justify the potential burden on the service provider.

**Therefore, the Panel finds that regulation under sections 42, 43, 44, and 49 of the UCA is not required of persons who are not otherwise public utilities who provide EV charging services.**

#### **5.3.4 Landlords, employers and strata corporations**

The current regulatory regime for employers, landlords and strata corporations is somewhat fragmented, for example:

1. Persons excepted from the definition of a public utility. By virtue of the exception from the definition of a public utility, the issue of granting an exemption from regulation for provision of EV charging services is moot.
2. By Order G-177-18, provides an exemption for a lessor:
  - who is not otherwise a public utility;
  - providing electricity that is purchased from BC Hydro to a lessee having a lease term of greater than 5 years;

- provided the electricity is not resold to others at an amount that does not exceed what BC Hydro would have charged for the electricity had the lessee been a customer of BC Hydro.

The order exempts the lessee from section 71 and Part 3 of the UCA except for sections 25, 38, 41 and 42, and the lessee from section 71.

In the Panel's view these lessors can provide EV charging services on the basis of the exemption outlined in Order G-177-18, provided they don't charge more than the price cap provides for. However, the determination of the quantum of the price cap may be problematic as there is no current BC Hydro EV charging tariff.

3. Persons who are not otherwise a public utility but become one by virtue of providing EV charging services. In the Panel's view, these persons are a subset of our broader discussion of persons who are not otherwise a public utility but become one by virtue of providing EV charging services. They would be exempted from regulation if our recommendation to exempt "persons who are otherwise not a public utility who provide EV charging services" is adopted.
4. Persons who are otherwise a public utility (e.g. if they operate a TES). By virtue of being a utility, these persons do not qualify for the recommended exemption that applies to "persons who are not otherwise a utility who provide EV charging services."

Given the findings concerning a lack of monopoly control of landlords and strata corporations, in our view these differences in regulatory treatment are an unintended consequence of the "otherwise existing utility" taxonomy introduced by the Panel. Given our previous findings on the lack of monopoly power, we do not consider there to be any public interest issues of concern with regard to lessors or landlord or the strata corporations providing EV charging services for compensation. **Therefore, we recommend that a landlord or a strata corporation that is otherwise a public utility, be granted the same exemption we have recommended for those persons who provide public EV charging services for compensation.**

We further note that employers and landlords with tenants with a lease term of no more than five years, who are not otherwise public utilities are excluded from the definition of public utility and therefore have no responsibilities under the UCA with regard to EV charging services. In contrast, lessors falling into the category described by (2) above are already exempt from much of Part 3, but are subject to a price cap on sales to lessees. In order to provide consistency, the Panel recommends that if the Ministerial exemption clarify that persons in category 2 above, when providing EV charging services not be subject to this price cap.

The Panel acknowledges that there are EV owners living in multi-unit buildings that desire more EV charging facilities at home and argue for BCUC regulation to achieve that goal. The argument appears to be that the BCUC can order, presumably using the obligation to serve provision, that landlords and strata corporations install EV charging stations. However, the Panel is of the view that this is not appropriate. To do so would interfere unreasonably with business decisions that are rightly within the domain of the landlord or the strata corporation.

Further, it is not appropriate for the BCUC to order the regional electric utility (e.g. BC Hydro or FBC) to install EV charging services in strata or rental buildings. These services are delivered downstream on the customer's premise and there is no precedent for the BCUC to direct a public utility to install anything downstream on a customer's premise. Previously in this Report, the Panel stated that it relies on principles stated in the RMDM

Guidelines. Therefore, to order that public utilities install EV charging equipment would be similar to ordering that they install electrical outlets or solar panels on their customers' premises.

As noted in Section 3.4 of this report, this Inquiry has received evidence that various municipalities have recently enacted bylaws prescribing the number of parking stalls that must be EV ready in new multi-unit buildings. In our view, this is an appropriate approach as municipalities have the necessary jurisdiction. Other possibilities are modifications to the National Building Code and the Canadian Electrical Code, which, the Panel notes, already prescribe minimum numbers and spacing for electrical outlets in residential and commercial buildings.

### **5.3.5 Summary of findings and further exemption recommendations**

In the sections above, the Panel examined whether regulation is required of the EV charging service provider. It is the Panel's intention to highlight and address selected sections of the UCA based on the issues pertaining to the EV charging market. For clarity, we considered Part 3 of the UCA in its entirety and did not identify any other specific provisions that warrant further explanation.

**In summary, we find that the regulation of all EV charging services, to the extent that the provider is not already considered to be a public utility under the UCA, is either not required or not within our jurisdiction. Therefore, for the reasons laid out above, we recommend that the Minister issue an exemption, with respect to EV charging services, from Part 3 of the UCA with the exception of sections 25 and 38, with respect to safety only, for those EV charging service providers that are not already a public utility under the UCA.**

**We further recommend that a landlord or a strata corporation that is otherwise a public utility, be granted an exemption, on the same terms and conditions as the exemption laid out above, pertaining to owning and/or operating an EV charging service.**

**Given these recommendations, we note that if the class exemption is granted, the exemption provided to Bakerview will not be consistent with the class exemption. In that event, we invite Bakerview to apply to have its existing exemption revoked.**

## **6.0 Regulatory framework for non-exempt public utilities**

This section, we deals with any public utilities for which we have not recommended an exemption in the previous section. We will refer to these public utilities as non-exempt public utilities. While non-exempt public utilities may be completely capable of providing EV charging services, and we do not seek to encumber their right to do so, we have a number of concerns, including concerns about potential cross subsidization from their existing ratepayers if those costs are included in rate base to be recovered from ratepayers.

This is of concern to the Panel because the possibility exists that by spreading the costs of EV charging infrastructure across its entire regulated customer base potentially allows the utility to offer its EV charging service at a lower rate than a competitor that doesn't have the ability to cross subsidize – either because it has no other customers or because it cannot recover those costs from other customers without a significant risk of losing those customers.

While the issue of EV charging providers that are non-exempt public utilities is the subject of the next phase of this Inquiry, the Panel takes this opportunity to lay out the issues that on which we would like parties to provide submissions.

## 6.1 Positions of interveners

### *A role for public utilities*

Many interveners in this proceeding indicate that the existing public utilities in BC have a role to play in the emerging market of EV charging service.<sup>182</sup> However, the extent of that role is wide across a spectrum.

At one extreme, some argue that existing public utility (i.e. BC Hydro and FBC) involvement is necessary to kickstart the EV charging market and to accelerate its deployment.<sup>183</sup> Some interveners have a strong interest to see mass adoption and development of the EV charging market and that the BCUC also has a role in this regard.<sup>184</sup> BC Hydro submits that a benefit of public utility participation is that public utilities are well-positioned to meet the expectations of the regulator in relation to service quality and the reliability of EV charging services. If public utilities are allowed to own DCFC stations and have more certainty that they will recover costs from ratepayers, the benefits would include more fast charging service being available, which would encourage greater take-up of electric vehicles, lowering GHG and increasing utility revenue through additional electricity sales. Other benefits include the ability of public utilities to leverage institutional knowledge and management of grid and system operations, which assists in planning the location of stations, for example.<sup>185</sup>

FBC, BC Hydro and MEMPR believe that both public utilities and other entities can co-exist in the current emerging EV charging market<sup>186</sup> and that their participation does not preclude other entities from also investing in EV charging services.<sup>187</sup>

In the middle range of the spectrum, Tesla suggests that existing public utilities could operate in areas where the competitive market is not providing an adequate supply of EV charging infrastructure (such as in remote communities and multi-unit dwellings).<sup>188</sup>

On the other extreme, some interveners argue that any participation by these utilities could potentially serve to restrict competitive participation,<sup>189</sup> stifle business innovations<sup>190</sup> and even go contrary to the development of EV charging market in BC. CEABC specifically argues that FBC and BC Hydro should only be allowed to participate as owners and operators in the EV charging infrastructure on a non-regulated basis without a guaranteed rate of return for service. CEABC goes further to argue that BC Hydro's no equity return<sup>191</sup> on its rate base distorts the market and that the playing level field will be tilted in its favor. CEABC further suggests that BC Hydro's existing

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<sup>182</sup> Exhibit C12-2, FBC evidence, pp. 13-14; Exhibit C19-2, MEMPR evidence, pp. 10-12; Exhibit C5-2 CoV evidence, p. 8.

<sup>183</sup> Exhibit C25-2, ChargePoint evidence, p. 15; Exhibit C15-2 Greenlots evidence, pp. 2-3; Exhibit C30-8, VEVA final argument, p. 13.

<sup>184</sup> Exhibit C5-2, CoV final argument, p. 14.

<sup>185</sup> Exhibit C1-2, BC Hydro evidence, p. 11.

<sup>186</sup> Exhibit C12-2, FBC evidence pp. 13, 16.

<sup>187</sup> Exhibit C19-2, MEMPR evidence, p. 12, Exhibit C1-2, BC Hydro evidence, p. 10.

<sup>188</sup> Exhibit C28-2, Tesla evidence, p. 6.

<sup>189</sup> Exhibit C24-2, CEC evidence, 43.

<sup>190</sup> Exhibit C28-2, Tesla evidence, p. 5.

<sup>191</sup> Exhibit C1-2, BC Hydro would not earn a return on its investments into EV charging stations as per Special Direction No. 7



investments should be grandfathered and that no new investments should be allowed, except in areas of the province where EV charging services are not competitively available.<sup>192</sup>

Some interveners argue that there are not enough DCFC stations due to a combination of low customer demand and high costs as compared to Level 2 charging stations. Intervenors supporting this view generally conclude that utility support of this infrastructure is required to ensure the build-out of the desired number of DCFC stations in British Columbia.<sup>193</sup> The current low utilization rate of public DCFC stations<sup>194</sup> (an estimated 80 percent of charging occurring at home) means that profits are unlikely in the short-term, and therefore utilities should be allowed to recover the costs of providing EV charging station infrastructure as this will support faster EV adoption and support provincial plans.<sup>195</sup> FBC and CEA further suggest that cooperation between utilities and municipalities has been critical to the development of DCFC EV charging infrastructure in BC to date.<sup>196</sup> In particular, CEA states:

Small communities can find the capital for DCFC but need utilities for ongoing ownership and operation. The utility operation of DCFC must provide high availability and high visibility in order to achieve the community objectives leading to DCFC deployment.

Currently, DCFC deployment in small communities across BC is contingent on utility ownership and operation.<sup>197</sup>

### *Rate base, cost recovery and cross subsidization*

With the issue of whether or not public utilities should be allowed to participate in the EV charging market comes the question of who should be providing the funds for the EV charging infrastructure. The BCUC has also received a wide spectrum of views on this issue.

Several interveners argue that regulated utilities should not be involved in providing EV charging stations or in the ownership and operation of such facilities.<sup>198</sup> Other interveners, such as BCSEA and ATI, suggest that allowing utilities to rate base the capital and operational costs associated with public DCFC and curbside and MURB residential charging provides the best means to increase the availability of quality charging.<sup>199</sup>

BC Hydro acknowledges that an implication of a regulatory principle may be that ratepayers should not bear risks resulting from a public utility investing in non-traditional services like DCFC and that some of BCUC's recent decisions underscore this concern.<sup>200</sup> BC Hydro further suggests that principles in the AES Inquiry Report (such as cross subsidization) could be revisited at a later time.<sup>201</sup> BCSEA appears to support this view in suggesting that in time, the EV sector in BC will be large enough to support a mature competitive marketplace for public EV charging services such that there will be expectation that the BCUC will re-evaluate the optimal roles of BC Hydro and FBC.<sup>202</sup>

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<sup>192</sup> Exhibit C2-2, CEABC final argument, p. 4.

<sup>193</sup> Exhibit C20-2, ATI evidence, p. 4; Exhibit C12-2, FBC evidence, p. 11; Exhibit C28-2, Tesla evidence, p. 6.

<sup>194</sup> Exhibit C5-2, CoV evidence, p. 5.

<sup>195</sup> Exhibit C1-2, BC Hydro evidence, p. 4; Exhibit C12-2, FBC evidence, p. 12.

<sup>196</sup> Exhibit C12-2, FBC evidence, p.13; Exhibit C34-2, CEA evidence, p. 1.

<sup>197</sup> Exhibit C34-2, CEA evidence, p. 1.

<sup>198</sup> Exhibit C23-2, BSSI evidence, p. 4; Exhibit 24-2, CEC evidence, p. 43.

<sup>199</sup> Exhibit C20-2, ATI evidence, pp. 3–7; Exhibit C6-14, BCSEA final argument, p. 49.

<sup>200</sup> Exhibit C1-2, BC Hydro evidence, p. 15.

<sup>201</sup> Exhibit C1-2, BC Hydro evidence, p. 15.

<sup>202</sup> Exhibit C6-14, BCSEA final argument, p. 38.

BC Hydro argues that public utilities should be able to recover costs on the basis that installing fast charging stations so it will remove a key barrier to EV adoption and deliver benefits to all ratepayers, including lowering GHG and increasing utility revenue through additional electricity sales.<sup>203</sup> BC Hydro further states that until there is private sector uptake of DCFC services, utilities operating in the market are best suited to provide this service and need to have the ability to recover the costs of doing so.<sup>204</sup> It has stated, in more than one occasion, that its main concern is the ability to recover costs.<sup>205</sup> Without the ability to include the assets in their regulated rate base and to recover costs, utilities might not participate at all.<sup>206</sup>

MEMPR acknowledges that while some jurisdictions allow public utilities to provide EV charging services and recover costs through rates, there are other jurisdictions that do not allow public utilities to deliver EV charging services or only allow them to deliver EV charging services as a non-rate based venture.<sup>207</sup> With respect to BC however, MEMPR and FBC suggest that utilities should be able to recover the cost of public EV charging infrastructure through rates charged to all ratepayers, or in other words, to be included in their regulated rate base<sup>208</sup> and subsidized by all other utility customers. FBC suggests that the level of regulation and involvement of the BCUC can be less than under traditional utility monopoly regulation.<sup>209</sup>

Greenlots agrees with BCSEA that some cross subsidization may be considered appropriate and non-discriminatory given broader public policy goals.<sup>210</sup> BCSEA suggests that public EV charging service provided by BC Hydro or FBC should be subject to light handed regulation by the BCUC.<sup>211</sup>

### *Separate entity service*

CEC does not agree that regulated utilities should include EV infrastructure costs in their rate base when EV service can be provided by unregulated entities in a competitive marketplace; therefore these costs should not be imposed on utility ratepayers. To the extent FBC wishes to participate in the electric vehicle market, CEC argues that it could do so from the position of an unregulated entity.<sup>212</sup>

Some interveners argue that public utilities must not include EV charging stations in their regulated rate base, but rather through a separate non-regulated entity to insulate the ratepayers from the risks of business failures, cross subsidization from other rate classes to support this new service.<sup>213</sup> However, BC Hydro argues that structuring the provision of these activities under a non-regulated affiliate would add additional cost and complexity to the delivery of services outside of the traditional role of regulated public utilities.<sup>214</sup>

Greenlots suggest that if a utility's requested cost recovery and return on investments then it should be granted, however if it chooses to offer in a separate, unregulated entity then that should be granted too.<sup>215</sup>

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<sup>203</sup> Exhibit C1-2, BC Hydro evidence, p. 4.

<sup>204</sup> Exhibit C1-2, BC Hydro evidence, p. 10.

<sup>205</sup> Exhibit C1-2, BC Hydro evidence, p. 12.

<sup>206</sup> Exhibit C1-2, BC Hydro evidence, p. 15; Exhibit C19-2, MEMPR evidence, p. 11.

<sup>207</sup> Exhibit C19-2, MEMPR evidence, p. 8.

<sup>208</sup> Exhibit C19-2, MEMPR evidence, p. 11; Exhibit C19-10, final argument, p. 6; Exhibit C12-2, FBC evidence, p. 13.

<sup>209</sup> Exhibit C12-2, FBC evidence, p. 13.

<sup>210</sup> Exhibit C15-5, Greenlots final argument, p. 3; Exhibit C6-2, BCSEA evidence, p. 15.

<sup>211</sup> Exhibit C6-2, BCSEA evidence, p. 5.

<sup>212</sup> Exhibit C24-2, CEC evidence, p. 43; Exhibit C24-19, CEC final argument, p. 35.

<sup>213</sup> Exhibit C4-2, Flintoff evidence, pp. 14, 16.

<sup>214</sup> Exhibit C1-2, BC Hydro evidence, p. 16.

<sup>215</sup> Exhibit C15-2, Greenlots evidence, p. 3.

## 6.2 Panel discussion

In the next phase of this Inquiry, the Panel invites evidence and submissions on the role of non-exempt public utilities in the EV charging market. Here we lay out the issues we are seeking to examine.

It may appear paradoxical to argue that there should be no regulatory oversight of the EV charging market because that oversight would stifle the development of the market, then argue that non-exempt public utilities should participate in the market. However, as the Panel has previously found, the EV charging market has not yet reached maturity and this immaturity motivates the argument for existing utilities to participate.

While some interveners argue that the uncertainty surrounding regulatory oversight is the reason for the lack of market development, others argue for the need for existing utilities to “kick start” the EV charging market – to use their ability to spread high start-up costs among existing ratepayers by including the capital costs of EV charging infrastructure in the utility’s regulated rate base. Proponents of kick starting the market submit that the lack of EV charging infrastructure is a disincentive to purchase of EVs, which in turn results in insufficient demand for charging services. This lack of demand is then a disincentive to providers of EV charging services, which reduces demand for electric vehicles. Subsidizing the cost to build this infrastructure will incent the further development of EV charging infrastructure which, in turn, will drive the purchase of EVs, so that there are actually two markets being kick started.

However, submissions on the need for the EV market to be kick started do not provide clarity on the relative effectiveness of one approach versus another. We have heard submissions from some interveners that they would purchase an EV if there was a better developed charging infrastructure in BC. That said, the Panel has not seen persuasive evidence that this is the most significant impediment to faster uptake of EV ownership. In this regard we note that some people may purchase a vehicle for travel not only within BC but also in other provinces and states, in which case, availability of charging infrastructure in other jurisdictions is also potentially a concern. It may also be possible that is the high cost of EVs that is the more significant inhibitor, and/or people are waiting until EV range improves. We have also heard that the lack of home charging facilities for people who live in multi-unit buildings inhibits demand. In summary, it is not possible at this time for the Panel to determine quantitatively if, and to what extent, provision of more charging infrastructure than what would evolve in the absence of a kick-start, will accelerate the adoption of EVs.

However, will providing subsidized EV charging infrastructure mitigate this problem? There is no evidence in this Inquiry that subsidizing charging will provide the necessary kickstart. What if the issue is the cost of an EV? If that is the case, to the extent that a ratepayer subsidy is considered appropriate, should it instead be directed to the cost of acquisition of an EV? The Panel notes that the BC Government in November 2018 has recently announced additional incentives to purchase EVs and its plans to expand the EV charging market.

In this Inquiry, the Panel heard evidence from a number of EV owners that there are insufficient Level 1 or 2 charging stations installed at their place of work or insufficient DCFC stations placed along major highways. However, there were no concerns raised from Tesla owners. Tesla automobiles have significantly longer range and in addition, the purchase of some Tesla models come with access to a network of proprietary Tesla fast charging stations. Does providing longer range and access to fast charging for the owners of its vehicles provide Tesla with a unique competitive position? Could subsidization of DCFC infrastructure interfere with such competitive initiatives? In this regard, the Panel notes that Tesla argues for no regulatory oversight whatsoever

of the market, although it argues that non-exempt public utilities could operate in areas where the competitive market is not providing an adequate supply of EV charging infrastructure (such as in remote communities and multi-unit dwellings).<sup>216</sup>

Further, there has been no evidence provided on the amount or duration of the kick start required, how the effectiveness of a kick start can be measured and the role of existing utilities once the market has been kick started.

In addition, the Panel wishes to examine the appropriate relationship between BC Hydro and FBC on one hand and other providers of EV charging service providers. FBC, BC Hydro and MEMPR believe that both public utilities and other entities can co-exist in the current emerging EV market<sup>217</sup> and that their participation does not preclude other entities from also investing in EV charging services.<sup>218</sup>

However, there are concerns raised by interveners about this co-existence. To illustrate, is it desirable that on one side of a street is a fully regulated non-exempt public utility providing EV charging services – with any risk of stranded assets borne by ratepayers, while across the street is a single EV charging service provider – a “mom and pop” – exempt from any BCUC regulation and with reduced access to low cost capital and fully exposed to stranded asset risk? How will the BCUC regulate the price that the non-exempt public utility can charge? Should the BCUC ensure a level playing field? If so, how can this be achieved? Should BCUC restrict where non-exempt public utilities can install infrastructure? If so, how will it do so?

The Panel has particular concerns about the degree to which cross-subsidization (if any) between EV customers and non-EV customers would be appropriate if EV charging infrastructure is included in rate base. If there is no cross subsidization, does the benefit presumed to be provided by the participation of person who are non-exempt public utilities still exist?

The Panel also questions the risk to be imposed on ratepayers. We have heard that the reasons for the slower development of DCFC infrastructure is a result of the high costs and the risk of cost recovery for a service provider. If this is true, then why is it then just and reasonable to impose this same risk onto ratepayers? Given the expected rate of technology change there is a risk of stranded EV infrastructure assets. If existing utilities do incur stranded asset costs related to EV charging infrastructure, is it appropriate for their ratepayers to be exposed to that risk?

A further issue related to ratepayer risk is the approval of the quantum of EV charging infrastructure spending. Should non-exempt public utilities be required to submit their EV charging capital spending plans to the BCUC? Should they be required to seek approval under section 45 – i.e. a CPCN? To what extent should they be required to demonstrate the need for the EV infrastructure they plan to deploy? If not, and if the infrastructure is overbuilt and costs aren’t recovered, should the shareholder then bear that cost?

The Panel must consider cost causation– a basic principle of economic regulation of utilities. Subject to a materiality threshold, customers should only be charged those costs that they can be reasonably determined to incur. Put another way, is there a benefit that will accrue to the customers of the non-exempt public utility that

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<sup>216</sup> Exhibit C28-2, Tesla evidence, p. 6.

<sup>217</sup> Exhibit C12-2, FBC evidence, p. 13.

<sup>218</sup> Exhibit C19-2, MEMPR evidence, p. 12.

would justify them bearing these costs of kick starting the market? Some interveners argue that the load - building provided by the growing EV charging market could reduce overall delivery costs to ratepayers. However, what must also be considered is whether that load would have otherwise materialized anyways, as the market develops and matures.

The Panel must also consider the effect of non-exempt public utilities entering the market on other market participants. How can their involvement be structured in a way that fosters competition and market development? In particular we note CEABC's argument that with BC Hydro's low cost of capital, the "playing field may be tilted in BC Hydro's favour."<sup>219</sup>

The model proposed by BCSEA and other interveners is that EV charging infrastructure is built by and owned by the non-exempt public utility and some or all costs of that infrastructure be recovered from all ratepayers. However, if the principle that non-exempt public utility ratepayers should fund some or all of the EV charging infrastructure is accepted, are there other business models that achieve the same goals with regard to infrastructure development but are also fair to EV charging providers that are exempt public utilities? For example, can these ratepayers provide a subsidy that will be available for *any* provider in the EV charging market?

In Section 4.2, we discussed the submission of ChargePoint that EV charging service should not be considered a public utility service.<sup>220</sup> In a similar vein, CoV argues that the UCA should be amended to explicitly exclude the provision of EV charging services from the definition of public utility.<sup>221</sup> If the provision of EV charging is not a public utility service, is there any regulatory difference between providing EV charging services and, say, operating a department store, and therefore any justification for non-exempt public utilities to provide EV charging services?

**In summary, in Phase 2, the Panel seeks evidence and submissions from interveners on the following:**

1. Can both regulatory models – little or no regulation for those exempt public utilities and the participation of non-exempt utilities – co-exist? In the absence of price regulation, how can EV charging providers who are not otherwise public utilities be protected from being undercut by existing otherwise public utilities? Should non-exempt public utilities be restricted to participate only in remote geographical locations that are currently uneconomical for exempt EV charging providers to serve?
2. If the provision of EV charging is exempt from regulation, is there any justification for otherwise public utilities to provide EV charging services? If the role of non-exempt public utilities is to kick start the market, how can the BCUC determine when the kick start is no longer needed? What is the role of those utilities once that kick start is completed? If there are stranded assets at that time how should they be dealt with?
3. If non-exempt public utilities participate in the EV charging market, should EV charging customers constitute a separate class from which costs associated with EV charging infrastructure is recovered? Or should the service be offered in a separate non-regulated business? What are the implications of each of these regulatory models?

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<sup>219</sup> Exhibit C2-2, CEABC final argument, p. 4

<sup>220</sup> Exhibit C25-10, ChargePoint final argument, p. 5.

<sup>221</sup> Exhibit C5-7, CoV final argument, p. 9.

4. Should other customer classes of non-exempt public utilities subsidize costs associated with the provision of charging services that can't be recovered from EV charging customers? How much of the cost is it appropriate for them to subsidize – should there be a cap?
5. If assets are stranded as a result of changing technology or other factors, who should pay for the potential stranded EV charging assets which may be in the non-exempt public utility's rate base?
6. In the context of BCUC economic regulation, what regulatory justification is required to allow existing utilities to cross subsidize EV charging services. If EV charging adds incremental load, does that justify cross-subsidization? Would the incremental load appear without the subsidization?
7. What are the implications of the province's energy objectives, as stated in the *Clean Energy Act*, with respect to entities that are otherwise public utilities providing potentially subsidized EV charging services? Are there non-economic justifications such as environmental benefits or meeting GHG reduction targets?
8. If non-exempt public utilities participate in the EV charging market, do they have any obligation to serve EV charging customers?
9. Should non-exempt public utilities be provided the same exemptions in regard to EV charging services as are other EV charging market participants. This includes exemption from Part 3 of the UCA, with similar retentions of certain sections by the BCUC.
10. Is EV charging infrastructure considered "distribution of electrical energy" for the purpose of section 3(1) of the Electrical Safety Regulation. In responding, Interveners are requested to consider the status of the provider – for example, is the interpretation different for a non-exempt public utility than it would be for an exempt utility or a provider excluded from the definition of a public utility?
11. Any other comments that may be helpful to the Panel.

The Panel reminds all regulated utilities that until further notice the existing provisions of the UCA, including any applicable CPCN guidelines and rate setting applications remain in effect. The Panel requests that applications related to EV charging services to include the utility's EV charging service long term plan, rates, rate base forecasts, system reinforcements, system reliability, and safety.

### **6.3 Wholesale rate**

While the market for EV charging services does not exhibit monopoly characteristics, in order to provide EV charging service a provider is reliant upon the delivery of electricity by a regulated monopoly. As such, they must pay for the electricity under the terms of an approved tariff. Under what tariff should that service be provided? Should EV charging services constitute a separate class or classes of service? What rates should apply – do the characteristics of the incremental load warrant a time of use rate, to incent charging behaviours that will reduce the costs of any incremental generation required? Should operators of EVs be incented to provide temporary energy storage by being remunerated for energy that they provide to the utility? Some of these questions were identified by this Panel at the start of this Inquiry as preliminary scope issues; however we would like to have greater exploration in the next phase

While the approval of a specific rate or tariff for the provision of electricity to an EV charging station will be subject to a hearing upon application by a utility, the Panel invites submissions on these issues in Phase 2 of the Inquiry in order to provide general guidance and information to future applicants.

**Therefore, in Phase 2 of this Inquiry, the Panel invites submissions from interveners on the following:**

1. Is there a need for a specific tariff provisions for the wholesale provision of electricity for the purpose of EV charging? And if so, should there be any differences depending on the type of EV charging – Level 1, Level 2, and/or DCFC stations?
2. If so, how should this wholesale tariff be designed? Is a time of use rate appropriate?

Please note that we only request submissions on rate design and time of use rates for the wholesale provision of electricity to EV charging stations. We acknowledge that there is a potential issue of rate design for home charging, which also includes net metering for EVs. However, these issues are not in scope for Phase 2.

## **7.0 Interpretation of the *Clean Energy Act* and GRR**

On June 3, 2010, the Government of British Columbia enacted the *Clean Energy Act* in order to establish energy policies and regulations to support the Province’s energy, economic, and greenhouse gas reduction priorities.<sup>222</sup> The *Clean Energy Act* states British Columbia’s energy objectives are, among other things, to reduce greenhouse gas emissions and, more specifically, to encourage the switching from one kind of energy source or use to another that decreases greenhouse gas emissions.<sup>223</sup>

To help implement these stated goals, section 18(1) of the *Clean Energy Act* defines a prescribed undertaking as “a project, program, contract or expenditure that is in a class of projects, programs, contracts or expenditures prescribed for the purpose of reducing greenhouse gas emissions in British Columbia.”<sup>224</sup> Further, section 18(2) establishes that the BCUC must set rates that allow for the sufficient recovery of costs incurred by a public utility for a prescribed undertaking and section 18(3) provides that the BCUC must not exercise its power in a way that would directly or indirectly prevent a public utility from carrying out a prescribed undertaking.<sup>225</sup>

Pursuant to section 35 of the *Clean Energy Act*, the Government of British Columbia enacted the Greenhouse Gas Reduction (Clean Energy) Regulation (GRR).<sup>226</sup> On March 1, 2017, the Lieutenant Governor in Council approved Order in Council 101-2017 amending the GRR to establish a number of prescribed undertakings for the purpose of section 18 of the *Clean Energy Act* with the objective of promoting electrification in several sectors of the provincial economy.<sup>227</sup>

### **7.1 Evidence and submissions by interveners**

By Order G-119-18, the BCUC determined that the scope of the first phase of the Inquiry should be refined to address, among other things, whether non-exempt public utilities, such as BC Hydro and FBC, are permitted to invest in EV charging stations as a prescribed undertaking under section 18 of the *Clean Energy Act* and section 4 of the GRR.<sup>228</sup>

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<sup>222</sup> *Clean Energy Act*, SBC 2010, c. 22, s 2. [http://www.bclaws.ca/civix/document/id/complete/statreg/10022\\_01](http://www.bclaws.ca/civix/document/id/complete/statreg/10022_01)

<sup>223</sup> *Ibid.*

<sup>224</sup> *Clean Energy Act*, SBC 2010, c. 22, s 18, 1.

<sup>225</sup> *Ibid.*, pp. 2–3.

<sup>226</sup> B.C. Reg. 102/2012 (O.C. 295/2012), [http://www.bclaws.ca/civix/document/id/complete/statreg/102\\_2012](http://www.bclaws.ca/civix/document/id/complete/statreg/102_2012)

<sup>227</sup> Order in Council 101 (B.C. Reg 76/2017), [http://www.bclaws.ca/civix/document/id/oic/oic\\_cur/0101\\_2017](http://www.bclaws.ca/civix/document/id/oic/oic_cur/0101_2017)

<sup>228</sup> Exhibit A-35, Appendix A, p. 7.

A number of interveners submit that section 18 of the *Clean Energy Act* and section 4 of the GGRR are not directed specifically at EV charging infrastructure investment, and/or could be applicable under discrete circumstances.<sup>229</sup> Similarly, several interveners argue that the relevance of the *Clean Energy Act* and the GGRR would be better considered in the context of a specific application by a public utility as it would be greatly dependent on the particular program under consideration.<sup>230</sup> For instance, MEMPR suggests that the question of whether a public utility's planned EV charging investments fall within one of the classes currently described in section 4(3) of the GGRR depends upon the details of the particular program under consideration.<sup>231</sup> Some interveners view that it would be the responsibility of the public utility to make the case in its application that EV charging service is a prescribed undertaking.<sup>232</sup>

Some interveners submit that the *Clean Energy Act* and GGRR are not applicable. CEABC's submission provides a summary of this position:<sup>233</sup>

There is nothing in the section 18 of the *Clean Energy Act* and section 4 of the GGRR that the CEABC can identify as specifically permitting BC Hydro and FBC to invest in EV charging stations as a prescribed undertaking under section 18 of the *Clean Energy Act* and section 4 of the GGRR. There is no specific language to this effect as compared to the specific language in subsection (2) of section 4 including the definition of "natural gas processing plant" in subsection (1) of section 4.

Conversely, several interveners submit that EV charging service is consistent with the current definition of a prescribed undertaking under section 4 of the GGRR, and, therefore, enables public utilities to include EV charging services, including EV charging stations, within their regulated rate base.<sup>234</sup> On this point, FBC takes the view that sections 4(3)(c) and 4(3)(e) of the GGRR are most pertinent in the context of EV charging infrastructure. According to FBC, section 4(3)(c) of the GGRR prescribes a class of undertaking involving the research and development of technology, or for conducting a pilot project respecting technology, that may enable the public utility's customers to use electricity instead of other forms of energy that produce more GHG emissions.<sup>235</sup> FBC submits that the deployment of EV charging stations promotes the use of EVs and supports the reduction of GHG emissions in BC as contemplated by section 4(3)(c).<sup>236</sup> In fact, FBC holds a similar view in its application dated December 22, 2017, in which FBC requests approval to establish rates for five DCFC stations on the basis that these stations are a pilot project and are therefore consistent with the GGRR.<sup>237</sup>

BC Hydro submits that EV charging services provided by public utilities could fall within this class of undertaking, provided that the public utility puts forward evidence to support that the EV charging services are for research and development purposes or a pilot program.<sup>238</sup>

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<sup>229</sup> See for example: Exhibit C1-5, BC Hydro final argument, pp. 12–13; Exhibit C6-14, BCSEA final argument, p. 41; Exhibit C19-10, MEMPR final argument, p. 7; Exhibit C21-10, BCOAPO final argument, p. 14; Exhibit C25-10, ChargePoint final argument, p. 13; Exhibit C34-6, CEC final argument, p. 3.

<sup>230</sup> See for example: Exhibit C1-5, BC Hydro final argument, pp. 12–13; Exhibit C6-14, BCSEA final argument, p. 41; Exhibit C19-10, MEMPR final argument, p. 7; Exhibit C30-8, VEVA final argument, p. 14.

<sup>231</sup> Exhibit C19-10, MEMPR final argument, p. 7

<sup>232</sup> Exhibit C6-14, BCSEA final argument, p. 41.

<sup>233</sup> Exhibit C2-2, CEABC final argument, p. 4

<sup>234</sup> See for example: Exhibit C4-11, Flintoff final argument, chapter 5; Exhibit C5-7, CoV final argument, p. 9; Exhibit C12-4, FBC final argument, pp. 4–7 ; Exhibit C15-5, Greenlots final argument, p. 2; Exhibit C24-19, CEC final argument, pp. 33–34, Exhibit C34-6, CEA final argument, p. 3; Exhibit C35-7, Victoria EVA final argument, pp. 2–3.

<sup>235</sup> B.C. Reg. 102/2012 (O.C. 295/2012), s 4, 3(c).

<sup>236</sup> Exhibit C12-4, FBC final argument, pp. 5–6.

<sup>237</sup> BCUC Order G-9-18 adjourned the review of FBC's application until further notice.

<sup>238</sup> Exhibit C1-5, BC Hydro final argument, p. 12.



As the GGRR is mute on the definition of a “pilot project” some interveners made submissions on how this idea should or could be framed.

In BCOAPO’s view, a “pilot project” can be defined as a project which is limited in duration and provides insight into specific issues.<sup>239</sup> Similarly, ChargePoint states it views a pilot project to be “...small scale and temporary...”<sup>240</sup> CEA argues that it is reasonable to consider public utility deployment and operation of EV charging station over the next 5 years to be a “pilot project” because the EV market is an emerging market with rapidly changing technology and significant growth.<sup>241</sup> CEA states that it is important to consider that there is still significant learning occurring within public utilities regarding EV charging infrastructure.<sup>242</sup>

Several interveners submitted that the GGRR should be amended for the purpose of expanding or adding clarity to the GGRR. Additionally, MEMPR notes in its submission that it is interested in advice on a potential amendment to the GGRR establishing guidelines on EV charging infrastructure investments by public utilities.<sup>243</sup> In response to this, BC Hydro submitted a proposed revision to the GGRR that would establish a new class of undertaking that allows a public utility to construct or operate a EV charging station.<sup>244</sup> FBC supports BC Hydro’s proposed amendment but suggests additional language should be added to allow for the purchase of EV charging stations.<sup>245</sup> In contrast, Flintoff submits that the Inquiry is not the appropriate venue to address this issue since BC Hydro’s proposal has not been questioned by other parties.<sup>246</sup>

## 7.2 Panel discussion

Without foreclosing the possibility of a utility being able to satisfy a future Panel that a particular EV charging proposal satisfies the “prescribed undertaking” requirements of the *Clean Energy Act* and GGRR, this Panel, having considered these submissions and the relevant provisions of the *Clean Energy Act* and GGRR, makes the following observations:

- Although section 35 (n)(ii) of the *Clean Energy Act* allows the Lieutenant Governor in Council to pass regulations to include as a “prescribed undertaking” projects that encourage the use of electricity for “electricity charging”, the GGRR does not contain specific mention of EV charging infrastructure or technology as being amongst that class of current “prescribed undertakings”; and
- While new technology may already exist or in future be available for deployment, providers of current EV charging services (whether Level 1, 2 or DCFC) are currently deploying tried and true technology.

Section 4(3)(c) of GGRR includes “a pilot project respecting technology, that may enable the public utility’s customers to use electricity instead of other sources of energy that produce more greenhouse gas emissions” within the definition of “prescribed undertaking.” **However, the Panel considers that whether a specific application qualifies as a pilot project should properly be determined by the BCUC, based on the merits of the particular application including the proposed scale and term of such project.**

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<sup>239</sup> Exhibit C21-10, BCOAPO final argument, p. 13.

<sup>240</sup> Exhibit C25-10, ChargePoint final argument, p. 13.

<sup>241</sup> Exhibit C34-6, CEA final argument, p. 3.

<sup>242</sup> Exhibit C34-6 CEA final argument, p. 3.

<sup>243</sup> Exhibit C19-10, MEMPR final argument, p. 7.

<sup>244</sup> Exhibit C1-5, BC Hydro final argument, Appendix B, p. 1.

<sup>245</sup> Exhibit C12-5, FBC reply argument, p. 4.

<sup>246</sup> Exhibit C4-12, Flintoff reply argument, p. 14.

As for BC Hydro’s proposal to amend the GGRR to include in the definition of “prescribed undertaking” a new class of undertaking to allow public utilities to own and operate EV charging stations, the Panel is of the view that it is premature to opine on that proposal until such time as interveners have had an opportunity to review and make submissions on that proposal in the next phase of this Inquiry. **In the next phase of this Inquiry, the Panel invites submissions from interveners on whether amendments to the GGRR to allow public utilities to own and operate EV charging stations as a “prescribed undertaking” are appropriate and if so, the appropriate extent and scope of such undertaking.**

## 8.0 Timeframe to revisit the Phase 1 findings

As discussed previously, the EV and EV charging infrastructure markets are at their early stages. Some interveners suggest that the BCUC should revisit the regulation of EV charging services in the future as the market evolves.<sup>247</sup> The trigger points for such process could be time-based, for example in five years, or based on specific market indicators or regulatory parameters.<sup>248</sup> An assessment in the future would consider whether the existing form of regulation, if any, continues to be appropriate.<sup>249</sup> Such assessment may consider the following:

- the efficacy of the regulatory approach;
- the competitive state of different segments of the EV charging market and the need for regulation;
- the rate of EV adoption in different parts of the province; and
- whether any adjustments to the regulatory approach are necessary to adapt to the circumstances of the EV charging market.<sup>250</sup>

However, CEC is of the view that a five-year limit to exemption should not be utilized as a means to rationalize ongoing regulation, and could potentially be counter-productive to market development in continuing a level of uncertainty for prospective market entrants. Instead, CEC recommends that the BCUC recommend to the Provincial Government that it clearly remove EV charging service from regulation completely through revising the definition of public utility, and avoid using a five year time frame.<sup>251</sup>

## 8.1 Panel findings

The Panel now considers whether it would be appropriate to set terms and conditions to potentially modify the Ministerial exemption in the future.

The Panel agrees with CEC that it is not ideal to establish a timeline or trigger mechanisms to revisit the Ministerial exemption, if one is granted. Investors of EV charging infrastructures may have different investment strategies and time horizons. The Panel is concerned that imposing pre-determined timeline or parameters can

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<sup>247</sup> Exhibit C1-2, BC Hydro evidence, pp. 12, 15; Exhibit C1-4, BC Hydro response to BCUC IRs 1.2.1.1, 1.2.2; Exhibit C4-2, Flintoff evidence, pp. 8–9, 12; Exhibit C4-7, Flintoff response to BCUC IR, p. 2; Exhibit C5-2, CoV evidence, p. 2; Exhibit C6-2, BCSEA evidence, pp. 4–5; Exhibit C16-2, Guthrie evidence, p. 2.

<sup>248</sup> Exhibit C1-4, BC Hydro response to BCUC IR 1.3.1; Exhibit C6-11, BCSEA response to BCUC IR 1.1; Exhibit C12-3, FBC response to BCUC 2.1 and 7.1; Exhibit C16-3, Guthrie response to BCUC IR 1.2

<sup>249</sup> Exhibit C6-14, BCSEA final argument, p. 4.

<sup>250</sup> Exhibit C5-7, CoV final argument, p. 2.

<sup>251</sup> Exhibit C24-20, CEC reply argument, p. 18.

potentially distort the market. As with standard regulatory practice, if circumstances change, the BCUC may, after a public hearing on its own motion, by application or on complaint from a third party may propose any necessary changes.

**Therefore, the Panel finds it appropriate that no review timeline or prescribed trigger mechanisms be established.**

## 9.0 Summary of Findings and Recommendations

This Summary is provided for the convenience of readers. In the event of any difference between the Findings and Recommendations in this Summary and those in the body of the Report, the wording in the Report shall prevail.

	<b>Finding and Recommendation</b>	<b>Page</b>
1.	<b>The Panel finds that the EV charging market is not a monopoly because there is more than one service provider.</b>	<b>20</b>
2.	<b>The Panel finds no evidence that any restrictions or impediments to entering the public EV charging market that have been imposed by government at any level, or by the electric utilities that provide wholesale electricity to new EV charging stations.</b>	<b>21</b>
3.	<b>The Panel finds that while concerns about regulatory oversight may have inhibited the development of EV charging infrastructure, they will not constitute a monopoly characteristic if the Panel recommendations are adopted.</b>	<b>21</b>
4.	<b>We therefore find no natural monopoly conditions exist in the EV charging market.</b>	<b>21</b>
5.	<b>The Panel finds that the public EV charging market does not exhibit monopoly characteristics.</b>	<b>22</b>
6.	<b>The Panel finds that the EV charging market in the rental and strata buildings sector does not exhibit monopoly characteristics.</b>	<b>22</b>
7.	<b>The Panel requests BC Hydro to confirm the Panel’s understanding within 7 days of the issuance of this Report.</b>	<b>22</b>
8.	<b>Having considered these submissions, the Panel finds that the broad definition of “compensation” in the UCA encompasses many forms of direct and indirect compensation.</b>	<b>25</b>
9.	<b>The Panel finds that all of the above examples fall within the definition of indirect compensation under the UCA.</b>	<b>25</b>
10.	<b>It is clear from this exemption that the BCUC already considers that a person providing EV charging services for compensation is a public utility and the Panel finds no reason to change that approach.</b>	<b>27</b>
11.	<b>The Panel finds that economic regulation is not required of persons who are not otherwise public utilities who provide EV charging services. More specifically, we recommend an exemption from those portions of the UCA applicable to price regulation, namely sections 59-61 of the UCA.</b>	<b>33</b>
12.	<b>We find section 71 of the UCA is not applicable, and therefore an exemption is unnecessary.</b>	<b>33</b>

13.	We also find that in a competitive market, parties should be free to develop new infrastructure as they see fit, subject only to any environmental, zoning or other applicable approvals. There is no regulatory justification for the requirement of a certificate of public convenience and necessity (CPCN) and accordingly we recommend an exemption from section 45 of the UCA.	33
14.	The Panel finds that regulation is not required of persons who are not otherwise public utilities who provide EV charging services, as it relates to section 30 and those portions of section 25 and 38 of the UCA applicable to adequate, efficient, just, reasonable and non-discriminatory service.	35
15.	The Panel finds that the UCA provides no jurisdiction for the BCUC to regulate, or order the provision of, such ancillary services.	36
16.	The Panel finds that regulation is not required of persons who are not otherwise public utilities who provide EV charging services, as it relates to section 25 of the UCA applicable to adequate and non-discriminatory service.	36
17.	The Panel finds that regulation under section 26 of the UCA is not required of persons who are not otherwise public utilities who provide EV charging service.	37
18.	We recommend that sections 25 and 38, with respect to safety only, not be included in the Part 3 exemption.	38
19.	The Panel finds that regulation under sections 42, 43, 44, and 49 of the UCA is not required of persons who are not otherwise public utilities who provide EV charging services.	39
20.	We recommend that a landlord or a strata corporation that is otherwise a public utility, be granted the same exemption we have recommended for those persons who provide public EV charging services for compensation.	40
21.	We find that the regulation of all EV charging services, to the extent that the provider is not already considered to be a public utility under the UCA, is either not required or not within our jurisdiction. Therefore, for the reasons laid out above, we recommend that the Minister issue an exemption, with respect to EV charging services, from Part 3 of the UCA with the exception of sections 25 and 38, with respect to safety only, for those EV charging service providers that are not already a public utility under the UCA.	41
22.	We further recommend that a landlord or a strata corporation that is otherwise a public utility, be granted an exemption, on the same terms and conditions as the exemption laid out above, pertaining to owning and/or operating an EV charging service.	41
23.	Given these recommendations, we note that if the class exemption is granted, the exemption provided to Bakerview will not be consistent with the class exemption. In that event, we invite Bakerview to apply to have its existing exemption revoked.	41

<p><b>24.</b></p>	<p>In summary, in Phase 2, the Panel seeks evidence and submissions from interveners on the following:</p> <ol style="list-style-type: none"> <li><b>1. Can both regulatory models – little or no regulation for those exempt public utilities and the participation of non-exempt utilities – co-exist? In the absence of price regulation, how can EV charging providers who are not otherwise public utilities be protected from being undercut by existing otherwise public utilities? Should non-exempt public utilities be restricted to participate only in remote geographical locations that are currently uneconomical for exempt EV charging providers to serve?</b></li> <li><b>2. If the provision of EV charging is exempt from regulation, is there any justification for otherwise public utilities to provide EV charging services? If the role of non-exempt public utilities is to kick start the market, how can the BCUC determine when the kick start is no longer needed? What is the role of those utilities once that kick start is completed? If there are stranded assets at that time how should they be dealt with?</b></li> <li><b>3. If non-exempt public utilities participate in the EV charging market, should EV charging customers constitute a separate class from which costs associated with EV charging infrastructure is recovered? Or should the service be offered in a separate non-regulated business? What are the implications of each of these regulatory models?</b></li> <li><b>4. Should other customer classes of non-exempt public utilities subsidize costs associated with the provision of charging services that can't be recovered from EV charging customers? How much of the cost is it appropriate for them to subsidize – should there be a cap?</b></li> <li><b>5. If assets are stranded as a result of changing technology or other factors, who should pay for the potential stranded EV charging assets which may be in the non-exempt public utility's rate base?</b></li> <li><b>6. In the context of BCUC economic regulation, what regulatory justification is required to allow existing utilities to cross subsidize EV charging services. If EV charging adds incremental load, does that justify cross-subsidization? Would the incremental load appear without the subsidization?</b></li> <li><b>7. What are the implications of the province's energy objectives, as stated in the Clean Energy Act, with respect to entities that are otherwise public utilities providing potentially subsidized EV charging services? Are there non-economic justifications such as environmental benefits or meeting GHG reduction targets?</b></li> <li><b>8. If non-exempt public utilities participate in the EV charging market, do they have any obligation to serve EV charging customers?</b></li> <li><b>9. Should non-exempt public utilities be provided the same exemptions in regard to EV charging services as are other EV charging market participants. This includes exemption from Part 3 of the UCA, with similar retentions of certain sections by the BCUC.</b></li> <li><b>10. Is EV charging infrastructure considered "distribution of electrical energy" for the purpose of section 3(1) of the Electrical Safety Regulation. In responding, Interveners are requested to consider the status of the provider – for example, is the interpretation different for a non-exempt public utility than it would be for an exempt utility or a provider excluded from the definition of a public utility?</b></li> <li><b>11. Any other comments that may be helpful to the Panel.</b></li> </ol>	<p><b>47-48</b></p>
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25.	Therefore, in Phase 2 of this Inquiry, the Panel invites submissions from interveners on the following:  1. Is there a need for a specific tariff provisions for the wholesale provision of electricity for the purpose of EV charging? And if so, should there be any differences depending on the type of EV charging – Level 1, Level 2, and/or DCFC stations?  2. If so, how should this wholesale tariff be designed? Is a time of use rate appropriate?	49
26.	The Panel considers that whether a specific application qualifies as a pilot project should properly be determined by the BCUC, based on the merits of the particular application including the proposed scale and term of such project.	51
27.	In the next phase of this Inquiry, the Panel invites submissions from Interveners on whether amendments to the GGRR to allow public utilities to own and operate EV charging stations as a “prescribed undertaking” are appropriate and if so, the	52
28.	The Panel finds it appropriate that no review timeline or prescribed trigger mechanisms be established.	53

DATED at the City of Vancouver, in the Province of British Columbia, this 26<sup>th</sup> day of November 2018.

*Original signed by:*

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D. M. Morton  
Panel Chair / Commissioner

*Original signed by:*

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A. K. Fung, QC  
Commissioner

*Original signed by:*

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H. G. Harowitz  
Commissioner

## Glossary and List of Acronyms

Acronym / Glossary	Description
AC	Alternating current
AES Inquiry	Alternative Energy Solutions and Other New Initiatives
ATI	AddÉnergie Technologies Inc.
AUI	Alectra Utilities Inc.
Autochargers	Autochargers.ca
BC Hydro	British Columbia Hydro and Power Authority
BCMEU	Nelson Hydro on behalf of the BCMEU
BCOAPO	British Columbia Old Age Pensioners' Organization, Active Support Against Poverty, Disability Alliance BC, Council of Senior Citizens' Organizations of BC, Tenants Resource and Advisory Centre, and Together Against Poverty Society
BCSEA	BC Sustainable Energy Association and Sierra Club of BC
BCSIS	BC Scrap-IT Society
BCUC	British Columbia Utilities Commission
BEV	Battery electric vehicle
BSSI	BrightSide Solutions Inc.
CCS	Combo Combined Charging System
CD	Direct current
CEA	Community Energy Association
CEABC	Clean Energy Association of British Columbia
CEC	Commercial Energy Consumers Association of British Columbia
CEV	Clean energy vehicle
CEV Program	Clean Energy Vehicle Program. The Province's CEV Program includes point-of-sale incentives for electric and hydrogen vehicles, investments in charging and fuelling infrastructure, additional support for fleets to adopt zero emission vehicles, and investments in research, training and outreach
CoV	City of Vancouver
CPCN	Certificate of Public Convenience and Necessity
CPL	Cypress Power Ltd.
CPUC	California Public Utilities Commission
CSA	Canadian Standards Association

Acronym / Glossary	Description
DCFC	Direct Current Fast Charging; also known as Level 3 charging; Time to charge: 30-60 minutes for full charge; Locations: highway corridors;
DCFC station	Direct current fast charging station
ECABC	Electrical Contractors Association of British Columbia
EV	Electric vehicle
EV charging station	Owned and operated by a variety of private and public entities
EVIP	Electric vehicle infrastructure project
FBC	FortisBC Inc.
FBCPIBC	Fraser Basin Council/Plug In BC
FEI	FortisBC Energy Inc.
Flintoff	Flintoff, Donald
GGRR	Greenhouse Gas Reduction Regulation
GHG	Greenhouse gas
Inquiry	An inquiry to review the regulation of electric vehicle charging service in British Columbia
LAE (formerly DEI)	LeadingAhead Energy Inc. (formerly Drive Energy Inc.)
Level 1 charging	Requirement: AC (120 volt); Time to charge: four hours for 30 minutes of driving. Locations: residences, some public
Level 2 charging	Requirement: AC (120 volt); Time to charge: four hours for full charge. Locations: municipal locations, office towers, parks, recreational facilities, shopping malls
Mackenzie	Mackenzie, Bruce
MEMPR	British Columbia Ministry of Energy, Mines and Petroleum Resources
MPSC	Missouri Public Service Commission
MURB	Multi-Unit Residential Building
NCDBC	New Car Dealers of BC
NYPSC	New York Public Service Commission
OEB	Ontario Energy Board
PEV	Plug-in EV
PG&E	Pacific Gas and Electric
PHEV	Plug-in hybrid electric vehicle
Recharged	ReCharged Technologies Inc.



Acronym / Glossary	Description
RMDM Guidelines	Retail Markets Downstream of the Utilities Meter Guidelines
SAE	Society of Automotive Engineers
SB	Senate Bill
SCE	Southern California Edison
SDG&E	San Diego Gas and Electric
TES	Thermal Energy System
Tesla	Tesla Motors Canada ULC
TOU	Time of Use
UCA	<i>Utilities Commission Act</i>
UDI	Urban Development Institute
VEVA	Vancouver Electric Vehicle Association
Victoria EVA	Victoria Electric Vehicle Association
VSI	Vanport Sterilizers Inc.
WPLP	Wesgroup Properties Limited Partnership
ZEV	Zero emission vehicle