

Community Energy Association | BCUC EV Charging Phase 2



BCUC EV Charging Inquiry Phase 2 Evidence

January 28, 2019



Connecting communities, energy and sustainability

Dale Littlejohn, Executive Director

Community Energy Association

326 – 638 West 7th Ave Vancouver, BC V5Z 1B5

dlittlejohn@communityenergy.bc.ca

January 26, 2019

Patrick Wruck
Commission Secretary
BCUC
Suite 410, 900 Howe Street
Vancouver, BC Canada V6Z 2N3

Re: British Columbia Utilities Commission – An Inquiry into the Regulation of Electric Vehicle Charging Service – Project No. 1598941

Dear Commission Secretary:

The Community Energy Association (CEA) has enclosed evidence for the EV Charging Inquiry on the following pages on behalf of local governments across British Columbia with a particular emphasis on smaller communities who do not have staffing resources comparable to utilities.

CEA's guiding considerations in this evidence include:

- A reliable and economical province-wide EV charging network is required today to achieve local government and provincial greenhouse gas emissions reduction targets. Enabling further investment by non-exempt utilities is the preferred approach to deploying a base network.
- No area in BC currently have a strong business case for private sector investment in EV charging
- If BCUC regulates price, it should also establish a floor for what is delivered for that price, particularly around management, maintenance, and communications related to charging stations
- 'EV Charging' is comprised of four (4) distinct services. These different services can have different regulation. The services are: Deployment – electrical service extension, Deployment – EV charging equipment and installation, Sustainment – maintaining a functional network in a state of readiness, Sustainment – the use of a charging station.
- In setting rates, all costs as well as all revenues including capital grants and Low Carbon Fuel Standard credits should be considered in establishing rates

Yours sincerely,



Dale Littlejohn, Executive Director, Community Energy Association

1 *1. Can both regulatory models – little or no regulation for those exempt public utilities and the*
 2 *participation of non-exempt utilities – co-exist? In the absence of price regulation, how can EV charging*
 3 *providers that are not otherwise public utilities (which would be exempt from regulation in accordance*
 4 *with the Panel’s recommendation) be protected from being undercut by non-exempt public utilities?*
 5 *Should non-exempt public utilities be restricted to participate only in remote geographical locations that*
 6 *are currently uneconomical for exempt EV charging providers to serve?*

7 CEA’s opinion is that no area of BC is currently economical for exempt EV charging providers to
 8 serve with DCFC. Some private stations exist such as Tesla that are provided for reasons other
 9 than economic viability of specific stations (such as establishing a network that enables them to
 10 sell vehicles). Therefore, geographic restrictions should not be placed on non-exempt utilities at
 11 this time. BCUC may wish to consider running scenarios in the model provided by CEA in Phase 1
 12 with utility input on current usage of a sample of charging stations to validate economic
 13 viability.

14 There is little utility participation in the Level 2 space which is largely private sector and local
 15 government dominated, again for reasons other than profitability of specific stations and so the
 16 level 2 space would not likely be affected by more active utility participation in the unlikely
 17 event that utilities begin large-scale level 2 deployment.

18 The question of co-existence is irrelevant for Level 1 and low density deployment of Level 2
 19 stations.

20 High density (e.g. multi-unit residential) deployment of Level 2 stations could be supported by
 21 utilities rate-basing the additional electrical infrastructure required. Cost of electrical
 22 infrastructure (new and particularly retrofit) has been noted as a challenge for some multi-unit
 23 residential or commercial deployments. Having charging available in multi-unit residential
 24 buildings is an unavoidable requirement to achieve the provincial CleanBC strategy’s vehicle
 25 electrification objectives as well as the greenhouse gas emissions reduction targets that virtually
 26 all local governments in BC have. While phase 1 of the inquiry provided recommendations to the
 27 province to remove one of the barriers to multi-unit residential deployment (being considered a
 28 utility), a decision to rate-base the cost of electrical service investments would remove another
 29 barrier and directly support both provincial and local government targets and policy objectives.

30 Many factors are involved in selecting which DCFC to use beyond price, the main ones being
 31 location and availability. The private sector is most likely to begin to emerge to support areas
 32 with high station conflicts (vehicles waiting to charge at non-exempt utility DCFC) which will
 33 likely be close to a critical mass of EV’s such as urban centers or key travel corridors.

34 Both models can co-exist for DCFC if the rules for the four distinct services related to ‘EV
 35 Charging’ are set so that they support co-existence. The four services can be split by two phases
 36 – deployment of the stations and sustainment of the stations and are summarized in the
 37 following table.

38
 39

'EV Charging' Service	Considerations	Balancing Private & non-exempt	Regulation and rate-setting
Deployment: Electrical service extension	Significant cost and a barrier to investment in DCFC and high-density Level 2.	Support private deployment in light of provincial and local vehicle electrification and GHG targets at no or reduced cost	Prescribed undertaking to provide EV charging electrical service extensions and rate-basing the costs to overcome cost barrier in early stages of market transformation. This could be further nuanced by establishing standards for costs for DCFC deployment based on site characteristics so that costs arising from poor management or coordination are at risk of shareholder rather than ratepayer
Deployment: DCFC equipment and installation	Most non-exempt investment to date in DCFC has been through provincial and federal grants.	Non-exempt utilities do not appear to have a material advantage over the private sector in purchasing equipment. The province could, at its pleasure, review if utilities enjoy an advantage over the private sector in accessing grants.	A separate class of 'DCFC users' could be established. The non-grant capital associated with equipment purchase and installation (exempting service extension related costs above) could contribute to a rate application that would support recovery of the non-grant capital over the expected useful life of the assets averaged at a network level to avoid radically different fees associated with high usage and low usage DCFC.

<p>Sustainment: Maintaining a functional BC-wide DCFC network in a state of readiness</p>	<p>Benefits from a full BC-wide reliable, available and visible network accrue to all EV drivers and communities. Residents and tourists can have confidence that they can get to where they want to go and travel regardless of if they use a specific station or not. The network provide redundancy of individual stations.</p>	<p>A complete network across BC enables more people to transition to EV's and provides greater opportunity for private sector to deploy strategically in addition to the base network. Small communities can, and have, found capital for deployment (above) but have limited resources to monitor and engage with large utilities to ensure that the network is stable. If the network is not stable, the purpose of the network is defeated as residents and tourists will not have confidence that they can safely and conveniently travel.</p>	<p>Establishing both a floor for service levels (network uptime, mean time to repair, response time, customer / EV charging applications updates and notifications, etc) could be costed and form the basis of utility rate-basing and BCUC oversight to ensure that targets are being met.</p>
<p>Sustainment: Charging at a specific station by an EV user</p>	<p>Currently utilities enjoy an advantage over private sector in cost of providing charging through an asymmetry of demand charges favoring utilities.</p>	<p>Establishing rates that do not unduly favor non-exempt utilities over the private sector. Curtailment rates could be explored to reduce / avoid demand though instantaneous curtailment mid-charge may not be possible given current charging protocols</p>	<p>BCUC could invite utilities to propose rate structures that create an even playing field for all participants including non-exempt utilities, local governments, provincial ministries, and private sector. This could contribute to rate setting that enables capital recovery (above), cost of electricity provided to the station, and a utility rate of return.</p>

40

41

42 *2. If the provision of EV charging is exempt from regulation, is there any justification for non-exempt*
 43 *public utilities to provide EV charging services? If the role of non-exempt public utilities is to kick start the*
 44 *market, how can the BCUC determine when the kick start is no longer needed? What is the role of those*
 45 *utilities once that kick start is completed? If there are stranded assets at that time how should they be*
 46 *dealt with?*

47 The justification for non-exempt utilities to provide EV charging services is that until EV adoption
 48 rates (and therefore charging rates) reach a critical threshold, there a market failure exists (ie
 49 new technology is not adopted because the supporting infrastructure is not economically viable
 50 until mass adoption of new technology is achieved). Provincial, Federal and State governments
 51 have recognized this and many non-exempt utilities in other jurisdictions (such as Hydro-
 52 Quebec) play an active role in investment in infrastructure to overcome the market failure.

53 Once a level of adoption has been achieved that makes DCFC financially attractive (the business
 54 model provided by CEA in the first phase of this inquiry could be a starting point for estimating
 55 DCFC financial viability thresholds), profit-seeking private sector participants will enter the
 56 market. BCUC will know that the kick start is complete when multiple private-sector
 57 participants are actively investing in charging infrastructure. It is likely that, as this occurs,
 58 private sector participants will offer to buy utility charging networks. While it would be a
 59 business decision of the utility to sell or not, receiving reasonable offers to acquire networks
 60 would be a strong indicator that the kick start is over.

61 As a competitive environment with multiple private sector participants emerges, the non-
 62 exempt utilities should have the ability to either continue operating in this environment or exit
 63 through sale of their charging assets. The most likely scenario under which stranded assets
 64 would result is through poor initial procurement decisions or mismanagement of a network
 65 once deployed which both lead to an unstable or under-performing network. As such, stranded
 66 assets should be at the risk of the shareholder, not the ratepayer.

67

68 *3. If non-exempt public utilities participate in the EV charging market, should EV charging customers*
 69 *constitute a separate class from which costs associated with EV charging infrastructure is recovered? Or*
 70 *should the service be offered in a separate non-regulated business? What are the implications of each of*
 71 *these regulatory models?*

72 See Question 1, and note that benefits accrue to different actors depending on which part of ‘EV
 73 charging’ is considered and rates should reasonably reflect the fundamental differences across
 74 the 4 parts of ‘EV Charging’.

75 CEA strongly favors a regulated business model for non-exempt utilities. Before BC Hydro’s
 76 Distribution Asset Management group, which resides in the regulated utility, assumed
 77 responsibility for the BC Hydro DCFC network, the management of the network did not produce
 78 results consistent with the objectives of the deployment of a DCFC network, mainly stability,
 79 availability and visibility to enable confident travel across BC from the perspective of small
 80 communities.

81 Small local governments who have provided capital to non-exempt utilities to deploy DCFC on
 82 the condition that they continue to operate and maintain the DCFC stations so that the local

83 governments can achieve the community-wide GHG emissions reductions and EV tourism-
 84 related economic development. Small local governments do not have the capacity, in the
 85 absence of some form of light-touch BCUC regulation to expend the staff time required to
 86 convince a large utility (exempt or non-exempt) to change its management practices if those
 87 practices are not delivering what has been agreed to.

88 CEA notes that both BC Hydro and FortisBC are demonstrating a strong ability to manage and
 89 maintain their DCFC networks in a manner that leads to confidence in the travelling public about
 90 station status and their ability to comfortably and safely travel in electric vehicles. CEA
 91 commends both utilities on their progress toward a high-availability, high-visibility network
 92 across BC with DCFC that are managed as critical infrastructure. This is a new business area for
 93 the utilities with new customer and stakeholder expectations.

94 CEA's concerns about a non-regulated business model reflect local government concerns about
 95 ensuring that the current strong performance is maintained and enhanced.

96 Small local governments are strongly supportive of further rapid and significant investment by
 97 non-exempt utilities and provincial ministries in DCFC infrastructure so that their residents can
 98 have travel choices and so their communities can benefit from EV tourism.

99

100 *4. Should other customer classes of non-exempt public utilities subsidize costs associated with the*
 101 *provision of charging services that can't be recovered from EV charging customers? How much of the*
 102 *cost is it appropriate for them to subsidize – should there be a cap?*

103 See question 1. Two of the four services that comprise 'EV Charging' are reasonable to rate-
 104 base in this kick start phase. In particular, electric service extension / distribution utility work
 105 required for DCFC and maintaining a BC-wide network in a visible state of readiness may make
 106 sense to rate-base. DCFC equipment and installation and usage of DCFC by EV drivers may be
 107 best associated with some form of 'DCFC user' class.

108 *5. If assets are stranded as a result of changing technology or other factors, who should pay for the*
 109 *potential stranded EV charging assets which may be in the non-exempt public utility's rate base?*

110 As a competitive environment with multiple private sector participants emerges, the non-
 111 exempt utilities should have the ability to either continue operating in this environment or exit
 112 through sale of their charging assets. The most likely scenario under which stranded assets
 113 would result is through poor initial procurement or network management decisions which lead
 114 to an unstable or under-performing network. As such, stranded assets should be at the risk of
 115 the shareholder, not the ratepayer.

116 *6. In the context of BCUC economic regulation, what regulatory justification is required to allow existing*
 117 *utilities to cross subsidize EV charging services? If EV charging services add incremental load, does that*
 118 *justify cross-subsidization? Would the incremental load appear without the subsidization?*

119 CEA does not have sufficient time to offer an opinion on this question at this time.

120 *7. What are the implications of the province's energy objectives, as stated in the Clean Energy Act, with*
 121 *respect to non-exempt public utilities providing potentially subsidized EV charging services? Are there*

122 *non-economic justifications such as environmental benefits or meeting greenhouse gas reduction*
 123 *targets?*

124 CEA notes that the Clean Energy Act is further strengthened by the recent CleanBC strategy the
 125 Province released in December 2018 which clearly states policy direction to require that EV's
 126 constitute a rapidly increasing percentage of total vehicle sales. While it may be mathematically
 127 possible to achieve the EV adoption targets in the first ten years of the strategy through
 128 adoption in major urban centers, this would raise significant fairness concerns regarding the
 129 many British Columbians who live in small communities all across BC.

130 CEA further notes that the Clean Energy Act is strengthened by the approximately 200
 131 municipalities and regional districts across BC that have GHG emissions targets in the primary
 132 documents that guide community evolution and growth – Official Community Plans. Further,
 133 over 140 local governments across BC, representing over 80% of the population of BC have
 134 Community Energy and Emissions Plans which outline targets, strategies and actions to save
 135 energy, emissions, and money locally. These plans address transportation which is often the
 136 largest emitting sector in communities. In small, low density, low growth communities, vehicle
 137 electrification is by far the most significant opportunity to reduce transportation emissions.
 138 Many communities, including those we have worked with as part of Accelerate Kootenays
 139 (Regional Districts of Kootenay-Boundary, Central Kootenay, and East Kootenay and up to
 140 Golden) as well as ChargeNorth (all of Highway 16 and Highways 5 and 97 between Highway 16
 141 and Kamloops) and Peaks-to-Prairies (Calgary and southern AB from BC to SK) recognize that EV
 142 charging serves to reduce GHG emissions locally and to drive tourism and economic
 143 development. These objectives can only be achieved with a broad, stable network.

144 Given the extensive evidence provided by the Clean Energy Act, the Clean BC Strategy,
 145 approximately 200 local government targets and over 140 local government plans, there can be
 146 little doubt that vehicle electrification, which is dependent on EV charging is a public policy
 147 priority across BC.

148 *8. If non-exempt public utilities participate in the EV charging market, do they have any obligation to*
 149 *serve EV charging customers?*

150 CEA's opinion is that non-exempt utilities have a unique role to play in deploying province-wide
 151 network and maintaining that network in a state of readiness (see Q1). From this perspective
 152 the utilities could have a duty to serve all regions of BC. This does not necessarily mean a DCFC
 153 in each community, but DCFC's at a sufficient frequency, visibility, and reliability to support
 154 confident, convenient travel across all of BC. This will require higher density of stations in areas
 155 of high usage. A related duty would be to maintain stations individually as they contribute to
 156 the network overall to be ready for use by EV charging customers. This readiness is different
 157 from actual use as it relates to the knowledge that a network of stations exists and a high
 158 degree of confidence that one will be able to charge on their journey in a convenient way.

159 CEA's opinion is that there is a duty to provide a high-reliability network of charging stations that
 160 enable travel across all of BC.

161

162 *9. Should non-exempt public utilities be provided the same exemptions in regard to EV charging services*
 163 *as are other EV charging market participants? This includes exemption from Part 3 of the UCA, with*
 164 *similar retentions of certain sections by the BCUC.*

165 See Question 1 and note the differences depending on which aspect of ‘EV charging’ is considered.
 166 There is an important oversight role for BCUC in overall network reliability (particularly regarding utility
 167 processes which are under the control of the utilities more so than equipment performance).

168 Small local governments across South-eastern BC secured the capital for the Accelerate Kootenays
 169 deployment and have limited staff capacity (some less than 10 staff to perform all functions of a local
 170 government) to engage with large utilities. These local governments seek to reduce emissions in their
 171 communities and to support local economic development. These goals can only be achieved if utilities
 172 maintain and operate the stations in a way, perhaps applying similar management as used for
 173 distribution assets, that results in the stations being highly available and the status of stations including
 174 expected time to recovery being highly visible.

175 Both utilities are currently (2019) performing well in this regard. This has not always been the case and
 176 there is a role for the commission to provide a venue for local governments to raise their concerns with
 177 utilities if utilities become unresponsive in the future. This could take a ‘light-touch’ form of regulation
 178 similar to thermal energy systems.

179 Similarly, if the Commission chooses to regulate rates, there is a logical argument that it should also
 180 establish a minimum level of performance for the service the rate relates to.

181 *10. Any other comments that may be helpful to the Panel.*

182 CEA encourages the commission to include all revenues (of note: capital grants for equipment
 183 and low carbon fuel standard credits for low carbon vehicle ‘fuel’)

184 The commission could consider advise to the Province on mechanisms for providing clear,
 185 unambiguous direction to non-exempt utilities that EV charging is a priority that they should
 186 pursue. This advise could explore how best to institute metrics and measures given ‘what gets
 187 measured, gets managed’. This is, perhaps, simpler with BC Hydro as the province is the
 188 shareholder and could include GHG reduction targets in a service plan or board evaluation.

189 CEA is sympathetic to the limitations in process that the Commission is subject to. CEA has
 190 experience with facilitated dialogue techniques that have been used to quickly discern
 191 consensus items and explore differences of opinion in a timely manner. CEA suggests that a
 192 one-size-fits-all process for BCUC deliberations may not be sufficient or efficient in all cases,
 193 particularly with an emerging field such as EV charging.

194 ***Wholesale rate (p. 49 of the Phase 1 Report)***

195 *11. Is there a need for a specific tariff provisions for the wholesale provision of electricity for the purpose*
 196 *of EV charging?*

197 As noted in CEA’s response to Q1, the main consideration we see is an asymmetrical approach to
 198 demand charges in favor of utilities for DCFC. This is a non-issue for Level 1 and Level 2.

199 *12. If so, how should this wholesale tariff be designed? Is a time of use rate appropriate? Should there be*
 200 *any differences depending on the type of EV charging – Level 1, Level 2, and/or DCFC stations?*

201 CEA suggests inviting utilities to come forward with recommendations that level the utility/non-utility
 202 playing field. As noted in Q1, this could include an examination of what curtailment is possible with
 203 DCFC to support a reduction / elimination of the demand charge.

204 ***Safety (pp. 38 and 48 of the Phase 1 Report)***

205 *13. Section 3 of the Electrical Safety Regulation states that it “does not apply to a public utility as defined*
 206 *in the Utilities Commission Act in the exercise of its function as a utility with respect to the generation,*
 207 *transmission and distribution of electrical energy”. Further, “distribution equipment” is a defined term in*
 208 *the UCA. Although it seems clear that EV charging equipment is not “generation or transmission”, the*
 209 *Panel did not make any finding in the Phase 1 Report on whether EV charging infrastructure is*
 210 *“distribution equipment.” The Panel invites submissions on this issue in Phase 2.*

211 *In responding, Interveners are requested to consider the status of the provider – for example, is the*
 212 *interpretation different for a non-exempt public utility than it would be for an exempt utility or a provider*
 213 *excluded from the definition of a public utility?*

214 CEA has no opinion

215 ***Greenhouse Gas Reduction Regulation (p. 52 of the Phase 1 Report)***

216 *14. In Phase 2, the Panel invites submissions from Interveners on whether amendments to the*
 217 *Greenhouse Gas Reduction Regulation to allow public utilities to own and operate EV charging stations*
 218 *as a “prescribed undertaking” are appropriate and if so, the appropriate extent and scope of such*
 219 *undertaking.*

220 As noted in Q1, the answer to this question depends on which aspect of ‘EV charging’ is being
 221 considered. The strongest case for a ‘prescribed undertaking’ may be in the provisioning of
 222 service extensions to support DCFC.

223 As noted in Q1, there is a role for the commission in providing a light-touch forum for local
 224 governments to raise non-exempt utility performance issues.

225 It may help inform the inquiry if BCUC ran several financial / business model scenarios that
 226 reflect different approaches to regulating and who pays for what.