

**Date Submitted:** April 03, 2018

**Proceeding name:** BCUC Regulation of Electric Vehicle Charging Service Inquiry

**Are you currently registered as an intervener or interested party:** No

**Name (first and last):** Dairobi Paul

**City:** Vancouver

**Province:** British Columbia

**Email:** [REDACTED]

**Phone number:** [REDACTED]

**Comment:**

As an EV owner for 3 years I have become aware of the difficulties in accessing charging stations for my EV. Please find attached my letter to the Commission Secretary.

Dairobi Paul

[REDACTED]  
[REDACTED]  
[REDACTED]

April 2nd, 2018

Commission Secretary  
British Columbia Utilities Commission  
900 Howe Street  
Suite 410  
Vancouver, BC V6Z 2N3

There are a number of negative factors affecting the practical use of EV's in BC which could be addressed by the BCUC as they are all related to access to electrical power.

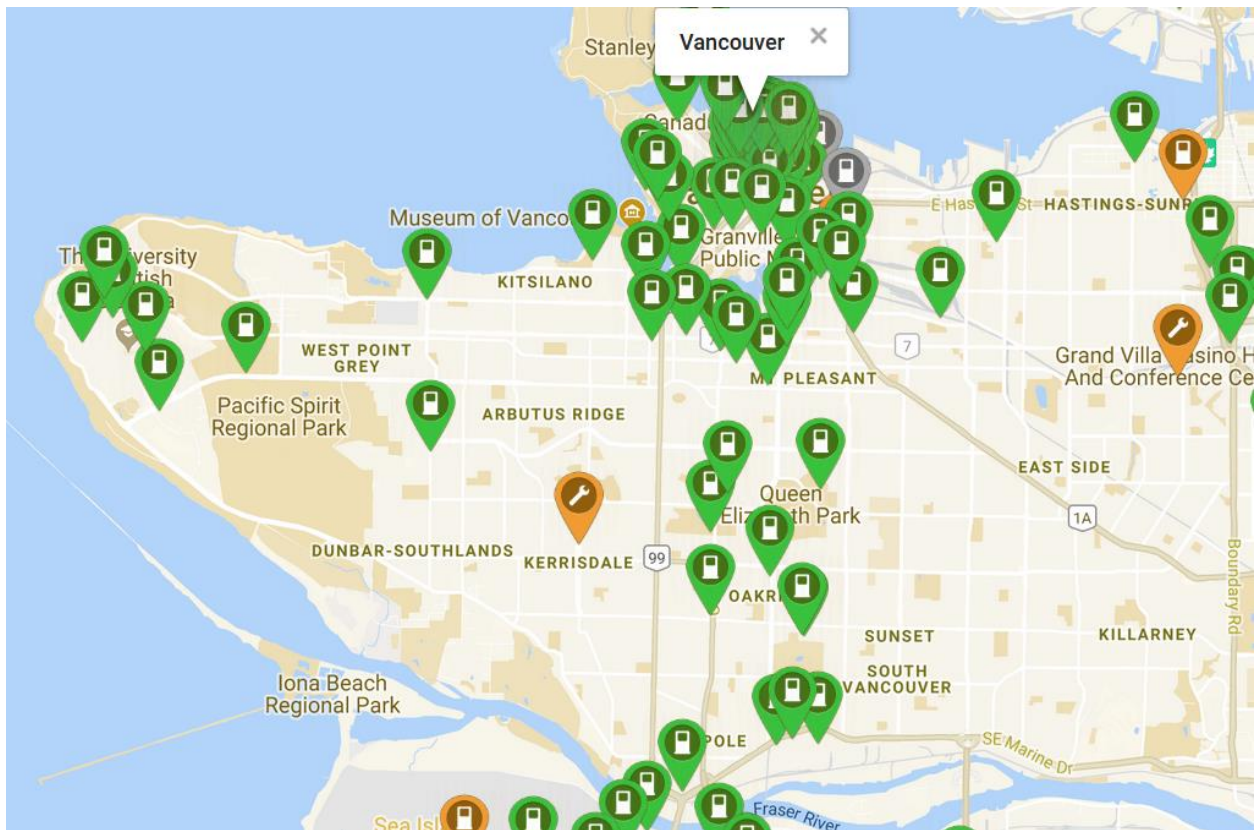
Owners of gas and diesel powered vehicles rarely have to consider whether they will be able to successfully refuel their vehicle while travelling in urban areas. It can be a consideration when travelling outside of major centres but there is never any doubt that they can fill-up before a stretch of highway without service stations and that at the other end there will be a functioning service station where it will take a few minutes to refuel at.

This is totally the opposite of EV drivers. Even living within the City of Vancouver they are constantly having to calculate when they will need to charge their car. There is never any certainty that a charging station will be available and many areas of the City have no charging stations. Those living in condominiums not built recently may be prevented by charging at home by their strata council. Travelling outside of urban areas requires careful planning. The distance between charging stations needs to be determined to ensure that the EV will have the range to make it between each of the charging stations en route. Extreme weather needs to be factored in as both excessive cold and heat have a hit on the power that will be drawn from the battery. Finally research needs to be done through online applications such as PlugShare to find out whether there are charging fees and reading the comments for each of the charging stations to determine whether the charging stations that will be used are likely to be working, and if not, what the alternative solutions might be, e.g. using a nearby Level 2 charger or staying overnight at a motel which allows you to plug in your EV or not travelling at all.

These considerations described above that an EV driver must consider before even getting into their car are covered by three subjects:

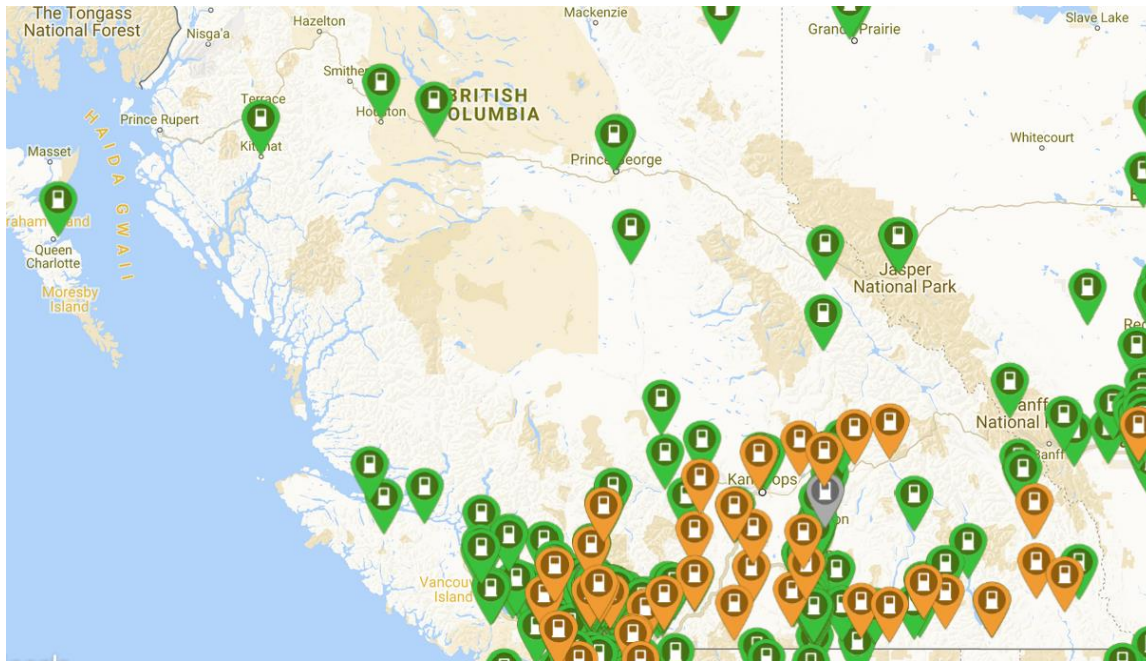
## 1. Access

It is important to have charging stations available throughout urban areas. The City of Vancouver is currently an example of how not to do this. Going to <https://www.plugshare.com/> and entering Vancouver, BC, in its search box gives you the following picture.

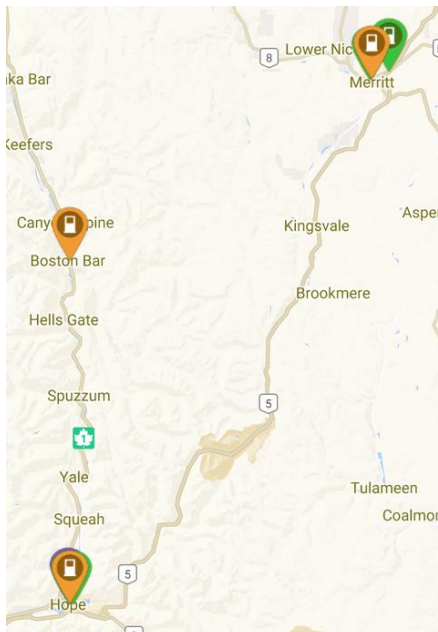


You can see that there are large areas of Vancouver without a charging station. This makes it difficult for EV's to be used with any confidence of being able to find a charging station nearby to their destination. It also creates charging "hot spots" where EV drivers often have to queue. The City of Vancouver characterises this as congestion rather than understanding that they don't have enough charging stations to service the growing number of EV's in the city.

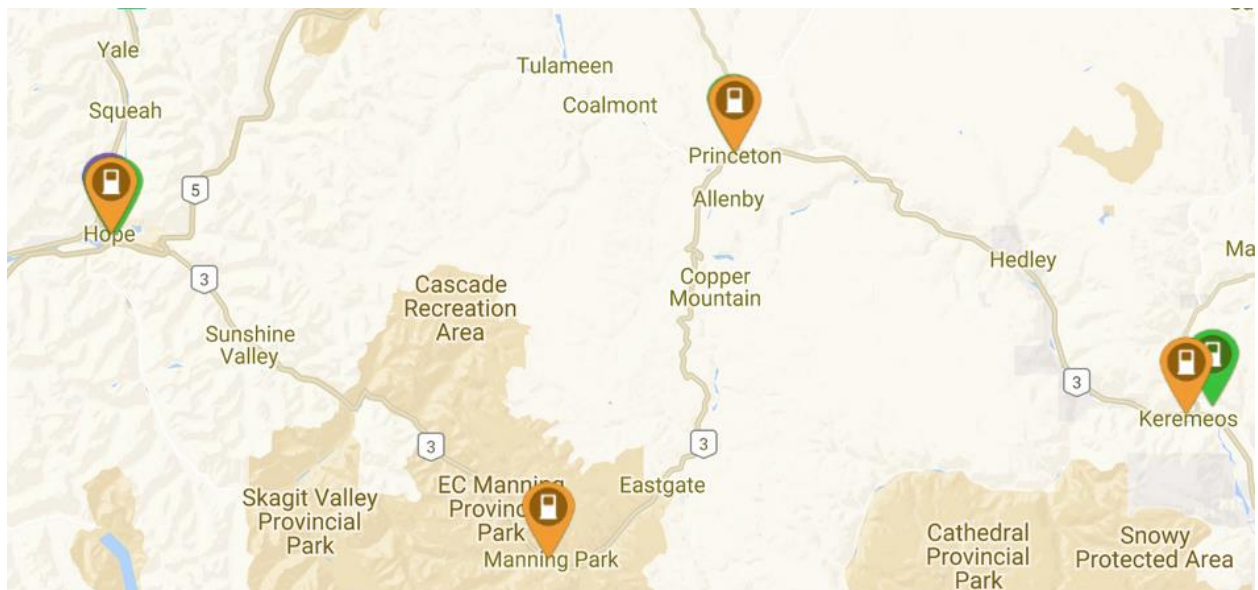
Travelling outside of the Lower Mainland is even more difficult to find charging stations as shown below:



Even just beyond the Lower Mainland there are challenges for EV's. Highway speeds and climbing hills increases the amount of power EV's use. With a speed limit of 120km/hour and an ascent of over 1200 metres the Coquihalla Highway between Hope and Merritt can't be used by some EV's because of a lack of a charging station between the two points.



Because of the lack of charging stations along even the major highways, there is no redundancy. Take an example of driving from Hope to Keremeos



The fast charger at Manning Park can recharge most EV's to 80% within 30 minutes. If this isn't working, the EV will need to use Level 1 charging, i.e. 110V, which will require an overnight stay to get enough power to make it to Princeton.

These are problems not faced by gas and diesel vehicle drivers. The objective should be to make travelling in an EV equivalent to that of an ICE.

## 2. Right to Charge

The majority of EV's are owned by individuals rather than companies. They spend a considerable amount of time parked at the home of the owner. This is the most convenient time to have the car charged. People living in standalone homes generally have easy access to electricity through a Level 1 connection. Those without a garage who live in the City of Vancouver have been offered a solution to allow them to bring power to a street side charging station outside the home. The City's RR-1(c) Administration Report (<http://council.vancouver.ca/20170627/documents/rr1c.pdf>) requires the home owner to pay all the costs, but, curiously, limits them to 3 hours between 9:00AM to 10:00PM to use their own charging station. For business the City similarly requires the business to pay all costs, don't allow advertising and require the power be provided for free while the City creates an income stream at the charging station from a parking meter and parking tickets.

EV owners without access to power at home, for example condominiums not recently built, do not have a "right to charge". Strata councils can object to the installation of a charging station at a condo owner's designated parking space, even if all the costs are covered by the condo owner. Here's a local story of a Port Moody couple: <https://insideevs.com/chevy-volt-owners-forced-move-due-landlords-refusal-allow-charging/>

There should be provincial legislation that gives EV owners the right to have a charging station installed at their designated parking space. This will provide at cost electricity to the EV owner and will reduce the demand for public charging stations.

### **3. Social Equity**

BC Hydro has some very broad service rates for business and residential power usage, each of which has its own justification for the fee. Currently EV's are charged in the range of \$0.00 to a cost per kWh or cost per hour. This doesn't make sense. The home owner with access to their residential power pays the same amount of money to run their EV as to dry their hair or bake a cake. An EV owner without access to their residential power is subject to whatever is available to them depending on where they drive. For a City of Vancouver resident they can pay nothing at all up to the \$16.00 hours proposed in the City's RR-1(d) Administration Report <http://council.vancouver.ca/20170627/documents/rr1d.pdf> . The current range of rates is shown here: <http://vancouver.ca/files/cov/Electric-vehicle-user-fees-november.pdf> . It doesn't make sense that at the Britannia Community Centre the cost is \$2.00/hour and not far away at Hastings Park/PNE it is \$1.00/hour. These fees are multiples of the cost of electricity which negatively impact on those without access to residential power.

The public charging stations should be considered part of the public infrastructure paid for by general taxes. The electricity should be charged at the cost of BC Hydro's residential rate to ensure there is social equity amongst EV owners. Why should someone with off street parking on their property benefit over someone living in an older condo without access to power?

### **Solution and Conclusion**

The simplest solution for charging fees is to have BC Hydro invoice the EV owner directly for the electricity that is used. This could be included in the EV owner's BC Hydro bill or an account solely for EV usage could be used. It would be the most transparent way to charge a fee for the electricity used. The operators of the charging stations already have the capability to identify the user and the amount of power consumed and it would be very simple to forward this to BC Hydro to invoice.

Timed fees should be eliminated. It is an unfair impost on EV owners during the winter when the ability for EV batteries to charge is slowed down due to colder temperature, and some cars charge faster than others.

Other fees such as parking and operator management fees should be clearly stated at the charging stations and included in charging station's online information.

The charging station operators should be encouraged to run booking systems for the charging stations. We book all kinds of services online and by phone. Booking the use of a charging station should be an option for EV drivers. The booking would allow the EV driver to reserve the station for a set period of time. This would give certainty that the EV can be charged when required and would provide information of when the station is available.

Much more needs to be done to install charging stations in urban areas not currently serviced.

Outside of urban areas redundancy needs to be built into the “network” of charging stations with either a greater density along the highways throughout the province and/or additional charging ports at existing station locations, e.g. Level 2 charging ports next to Level 3 fast chargers or multiple Level 3 chargers.

Hope is a common state of mind for an EV driver. Hope that there is a charging station at your destination. Hope that the charging station works. Hope that the charging station isn’t being used when you get there. Hope that you don’t have to wait too long to be able to use the charging station. Let’s replace hope with the certainty that gas and diesel vehicle drivers take as a given.

Yours sincerely,

Dairobi Paul

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