



BCUC REGULATION OF ELECTRIC VEHICLE
CHARGING SERVICE INQUIRY EXHIBIT C3-3

TO:

Patrick Wruck
Commission Secretary and Manager
British Columbia Utilities Commission
Vancouver, BC

From:

Drive Energy
PO BOX 608
Squamish, BC
V8B 0A5

June 12th, 2018

Attention: Christopher P. Weafer - Owen Bird Law Corporation for Commercial Energy Consumers Association of British Columbia

RE: British Columbia Utilities Commission Inquiry into the Regulation of Electric Vehicle Charging Service,_, Project No. 1598941 - Exhibit A-10

Dear M. Wruck,

Thank you for your interest into our request to the British Columbia Utility Commission.

Please see answered questions to your previous request below.

Sincerely,

Maxime Charron
mcharron@driveenergy.ca
778-879-3020
Drive Energy Inc.



TECHNOLOGY 1.0

Reference: Exhibit C3-2, p. 2 Open Charge Point Protocol

On pages 2 of Exhibit C3-2, Drive Energy states:

...the EVSE owner, who are also clients of vendors, are captive of a monopoly/oligopoly structure in which they are tied to the provider of the hardware (charging station) that they have purchased. As mentioned above, until the smart EVSEs operate on Open Charge Point Protocol [OCPP] like ABB, Easton or Tritium DCFCs, all level 2 hardware is tied to the same company to provide payment processing & service and are very vulnerable to uncompetitive monthly fees and payment processing fee hikes.

1.1 Is Drive Energy aware of any EV charging stations hardware available to BC clients that could use Open Charge Point Protocol (OCPP)? If yes, please discuss.

1.1.1. Yes many. More and more OCPP level 2 charging stations have become available in North America especially for level 2 chargers. There has been many OCPP level 3 charging units from different providers available, however many more are becoming available as the EV market is growing. As this is not a marketing platform, I invite you to communicate with me for a list of all Open Charge Point Protocol hardware (chargers) available in Canada.

B. RATES 2.0

Reference: Exhibit C3-2, p. 3

Rate Design – EV charging station to EV customers

On page 3 of Exhibit C3-2, Drive Energy provides the following five rate designs:

- I. Free for 1 or 2 hours, then pay up to \$10 / hour thereafter
- II. \$2 /hour and up to \$10 / hour thereafter (to make people move their vehicle)
- III. \$1 / hour for the first 2h + KWH used then up to \$10 per hour.
- IV. Simply \$2 / hour – no incentive for cars to vacate the space.
- V. Free if the EVSE owner decides to provide it as additional service
- VI. For DCFC, clearly having a mix of kwh and time is absolutely necessary

Drive Energy states that would be efficient if used for the proper application.

2.1 Please clarify whether the proposed rate designs are dependent on the specific level or type of charging.

2.1.1 Yes, the rates are dependant on the type of charging stations provided by the provider; level 2 or level 3.



2.2 Please elaborate on the pros and cons of each rate design, and discuss what behaviour would each method incent.

2.2.1

- I. This would be typical for the hospitality / commercial industry that would like to provide additional service to their clients while preventing abuse of the free service.
- II. Same as number I, however this could also be applicable for municipalities where there is a 2 hours maximum stay. It will allow municipalities to generate more money from people leaving their car for an excessive amount of time and encourage people to leave the charging station for others to use especially when fully charged. It also reduces costs on policing the charging stations by staff.
- III. This is a different kind of rate setting allowing people to pay on the amount of energy they used, as many plug-in hybrid will draw only 16amp and not 32amp from a level 2.
- IV. This is the general rate used at present in BC.
- V. Added value to an EV provider's clients such as public parking lots.
- VI. It is necessary as battery capacity increases. It takes over 1.5 hour to fully charge a 85kwh battery pack which will result in huge line ups at DCFCs around the province. Paying a higher price after 30 minutes of charging will allow flow at DCFCs. It is also important to have a mix of kWh fee structure since not every charger is generating the same power output and not all vehicles are capable of the same charging input within the same period of time.

2.3 In most circumstances, public parking space is rented out by time. Fuel sales are measured by litres or gallons. Please discuss whether consistency in rate design is desirable for public EV charging stations.

- 2.3.2 Public EV charging stations do not have to be consistent across the board just like gas prices are not the same at all gas stations. However, there is a need to set a maximum rate that providers cannot exceed as mentioned previously. EV drivers have multiple applications on their phones to search for the fees on each station. Then, they can make a decision to pay extra for convenience or find a cheaper one close by. As owner of the station, a provider will quickly realize that the price is too high if nobody uses its EV charging stations and will have to reduce its pricing. For example, the City of Vancouver is charging \$6 per hour in one of their downtown location. It may sounds expensive, however it includes curb side parking rates in a very busy area of downtown Vancouver. If there is an added service included in the price of EV charging, it should be allowed to have higher fees, but BCUC should certainly have a cap on what that hourly fee can be.

As many commercial units are dual head (2 ports) chargers, it is imperative to split the fee in half when there is only one 240v 40amp feed to the station. In occasions, two vehicles will be plugged at the same time and will share the load dropping the charging output to 16amp. If the fee stays the same, the client will end-up paying the same price for half the service.