chargepoint.com

ChargePoint, Inc.
254 East Hacienda Avenue | Campbell, CA 95008 USA
+1.408.841.4500 or US toll-free +1.877.370.3802

February 17th, 2021

Ms. C. Long
Ontario Energy Board
P.O. Box 2319
2300 Yonge Street, 27th Floor
Toronto, ON M4P 1E4

Dear Ms. Long

Re: Utility Remuneration, Board File No: EB-2018-0287 and Responding to Distributed Energy Resources, Board File No: EB-2018-0288, ChargePoint Comments

Enclosed, please find ChargePoint's written comments on near-term priorities for the consultation following the February 3rd 2021 stakeholder meeting. Should you have any questions, please do not hesitate to contact us.

Suzanne Goldberg
Director, Public Policy – Canada
ChargePoint Inc.
Phone: 1-866-480-2936
Email: suzanne.goldberg@chargepoint.com

1. Introduction

On February 3rd 2021, the Ontario Energy Board (OEB) held a stakeholder meeting to review two studies (i.e. the "DER Impact Study" and "COVID-19 Impact Study") supporting the Responding to Distributed Energy Resources (DERs) and Utility Remuneration consultations. At the conclusion of the stakeholder meeting, participants were invited to provide written comments on the near-term priority work streams for the OEB to consider in these consultations.

ChargePoint has reviewed the studies and participated in the February 3rd workshop and provides the following comments on near-term focus priorities for the OEB.

Founded in 2007, ChargePoint is a category creator in EV charging, helping to make the mass adoption of electric mobility a reality. It operates in every segment, from commercial to fleet to residential. ChargePoint has created one of the world's largest charging networks by selling individual organizations and businesses, known as site hosts, everything they need to provide EV charging services – networked charging hardware, software subscriptions and associated support services. ChargePoint provides energy-managed AC level 2 and DC fast charging seamlessly integrated into one network available to the driver in a top-rated mobile app. Drivers plug into the ChargePoint network approximately every two seconds and have completed more than 82 million charging sessions to date.

ChargePoint has worked closely with utilities across Canada, as well as other public and private actors in the province to advance Ontario's transportation electrification industry. Alongside an extensive network of local distribution and installer partners, ChargePoint has developed partnerships with a wide range of entities from the retail, hospitality, development, utility, and municipal sector to deploy charging stations across Ontario. We draw on this experience in our comments below.

2. ChargePoint's Comments

2.1. Summary

- Electric vehicles (EVs) represent a technology whose growth presents both near-term opportunities and challenges for utility planning, reliability, investment and revenue. EVs, and smart charging, also present a near-term opportunity to provide valuable DERs, especially via demand response activities that shift or shape load to reduce system costs and manage the impact of EVs at local distribution nodes.
- Given current and anticipated growth in EV sales, and the material impact this could have on Ontario's electricity system, there is a near-term need for the OEB to prioritize EVs/smart charging in its examination of DERs and perhaps more broadly. This could include examining the process, operation and planning and market impacts of EVs and smart charging as DERs, as well as the role of utilities in supporting, planning for and managing EV adoption, and capitalizing on investments that yield net benefits to rate payers.
- To examine aspects of EVs and smart charging that relate to their role as a DER and more broadly within Ontario's electricity system, we draw on previous submissions from

the EV Society and Environmental Defense[1,2], and our experience in other jurisdictions, and recommend:

- explicit consideration of EVs, and smart charging, as a key DER technology, alongside other technologies, for this consultation and for broader near-term examination by the OEB;
- the development of a separate working group or work stream focused on EVs to address important EV-related topics (e.g. regulatory review, rate design, capital investments, infrastructure readiness). Such a working group or work stream could run in parallel to, or be separate from, the Response to DER consultation.

2.2. EV adoption is anticipated to grow in Canada and Ontario

Over the last five years, EV adoption in Ontario has increased.[3] EV sales are anticipated to grow significantly over the next two decades globally and in Canada. The Government of Canada has set ambitious targets for zero emissions vehicles (ZEVs, which include EVs) –10 per cent of new light-duty vehicle sales in Canada to be ZEVs by 2025, 30 per cent by 2030, and 100 per cent by 2040[4] – and allocated millions of dollars to programs that support EV adoption and charging station investments.[5] Further, the Ontario Government in its Made-in-Ontario Environment Plan relies on the increased uptake of EVs to deliver up to 16% of its planned 2030 emissions reduction goals.[6] Ontario, with the third largest EV population and high-levels of consumer interest,[7] has, and will likely continue to be, a key market for EVs in Canada.

2.3. EVs and smart charging are important DERs and should be a near-term priority area of focus for the OEB

The focus of the "DER Impact Study" shared with stakeholders on January 18th, was exclusively on solar and battery energy storage. This focus, according to the study, "was driven by the fact that these technologies represent the greatest potential impact on distribution system reliability, DER-related integration costs, increased operational requirements, and impacts to the supply landscape at the distribution and bulk power system levels", and positive growth trends.[8]

Like solar and battery energy storage, EVs have significant growth potential and have near-term implications for Ontario's electricity system processes, operations, and markets. They will also

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[1] Electric Vehicle Society, https://www.rds.oeb.ca/CMWebDrawer/Record/676020/File/document, April 2020, p. 7 of 8.
[2] Environmental Defense, https://www.rds.oeb.ca/CMWebDrawer/Record/675845/File/document, April 2020, p. 11-12/16.
[3] Statistics Canada. Table 20-10-0021-01 New motor vehicle registrations, https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=2010002101.
[4] Clean Energy Canada, *Canada targets 100% zero-emission vehicle sales by 2040*, January 2019.
[5] Government of Canada, *Fall Economic Statement 2020*, https://www.budget.gc.ca/fes-eea/2020/home-accueil-en.html & Government of Canada, A *Healthy Environment and A Health Economy*, https://www.budget.gc.ca/fes-eea/2020/home-accueil-en.html.
[6] Government of Ontario, *Made-in-Ontario Environment Plan*, https://prod-environmental-registry.s3.amazonaws.com/2018-11/EnvironmentPlan.pdf, p.23. The plan indicates that of 16% emissions reduction could come from low carbon vehicle uptake, which will be primarily EVs.
[7] E.g., Around 60% of Ontarians surveyed indicated they would chose an EV as their next vehicle. Source: Clean Energy Canada and Abacus, *Electric vehicles are picking up speed in public support*, 2020, https://abacusdata.ca/electric-vehicles-public-support-polling-abacus/.
[8] ICF, DER Impact Study, https://www.oeb.ca/sites/default/files/ICF-DER-impact-study-20210118.pdf, p. 3/54.

present opportunities and challenges for utility planning, reliability, investment, revenue and DER integration.

The impacts of EVs are material. Several studies have assessed the electricity system impacts of EVs in Canada, and have indicated that, in the near-term, impacts on utility operations are anticipated, especially at the local distribution level due to vehicle clustering (i.e. high EV adoption concentrated at a neighborhood-level).[9] For example, an analysis conducted by EPCOR suggests that even at small EV penetration levels, there is the potential for significant loading impacts to local infrastructure, especially when EVs are geographically clustered.[10] Conversely, EVs and smart charging (e.g. vehicle-to-grid, V2G; or managed charging or demand response, V1G) can provide valuable DERs and non-wire alternatives. Smart charging can be managed to align charging activity with grid needs. As a DER, EVs and smart charging can deliver benefits to both ratepayers and utilities in the form of reduced system costs from more efficient grid utilization or deferred capital upgrades. For example, a study commissioned by Public Service Electric and Gas (PSEG) Long Island found that managed charging could generate significant net benefits to rate payers in the form of deferred costs and reduced grid impacts, and deliver saving to ratepayers.[11] At present, there are a number of utilities in the US and Canada piloting managed charging or demand response programs, such as Nova Scotia Power's Smart Charging Program.[12]

Given current and anticipated growth of EV adoption, the value of EVs and smart charging as DERs, and the material impact this could have on planning and customer rates, there is a near-term need for the OEB to prioritize EVs in its examination of DERs and perhaps more holistically within the context of Ontario's electricity system.

2.4. Recommendations

EVs and smart charging will be an important DER in Ontario, and will present both challenges and opportunities for Ontario's electricity system and utilities. To address issues specific to EVs within the context of the Responding to DERs consultation and more broadly within the context of Ontario's electricity system, we recommend that the OEB initiate a separate working group or work stream to focus exclusively on EVs. Such a working group or work stream could address important EV-related topics such as regulatory review, rate design, EV investments and market competition, systems planning, and demand response, and could run in parallel to, or be separate from, the Responding to DERs consultation.

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[9] E.g., FleetCarma, Charge the North, 2019, https://www.fleetcarma.com/resources/charge-the-north-summary-report/ & Chapelsky, C. et al, DER Impacts to Urban Utilities Study Summary , https://www.epcor.com/products-services/power/Documents/micro-generation-research-solar-energy-electricity-grid-2019.pdf.

[10] Chapelsky, C. et al, DER Impacts to Urban Utilities Study Summary , https://www.epcor.com/products-services/power/Documents/micro-generation-research-solar-energy-electricity-grid-2019.pdf.

[11] Gabel Associates, Inc. (2018), Long Island Cost and Benefits, https://www.psegliny.com/saveenergyandmoney/solarrenewableenergy/electricvehicles/-%20%20/media/2C0D0CC8E48648ECBB38463CD0405826.ashx (and related presentation to the Long Island Power Authority Board of Trustees, https://www.lipower.org/wp-content/uploads/2018/10/EV-Study-LIPA-Board-Presentation-Oct-24-2018-FINAL.pdf).

[12] Nova Scotia Power Smart Charging Program, https://www.nspower.ca/clean-energy/innovation/smart-grid-nova-scotia/chargepoint-home-flex-ev-charging-system.

Regardless of the approach taken, it will be important for the OEB to examine the near-term challenges and opportunities of increasing EV adoption in Ontario. This includes the value of EVs and smart charging as DERs as well as utilities' role in supporting EVs (e.g. capitalization of line extension and rebates for smart EV charging equipment when there is benefit to the grid) and managing the impact of EVs on the grid and ratepayers.

If the OEB determines that the Responding to DERs consultation is not the appropriate forum to examine these additional topics, ChargePoint would encourage the OEB to consider initiating a separate process, such as an EV Charging Inquiry like that conducted by the BC Utilities Commissions in 2018 or the state of Ohio's PowerForward Roadmap.[13]

[13] See, PowerForward Roadmap available at: https://puco.ohio.gov/wps/wcm/connect/gov/38550a6d-78f5-4a9d-96e4-d2693f0920de/PUCO+Roadmap.pdf?MOD=AJPERES&CONVERT_TO=url&CACHEID=ROOTWORKSPACE.Z18_M1HGGIK0N0JO00QO9DDDDM3000-38550a6d-78f5-4a9d-96e4-d2693f0920de-nawqRqj.