Tales from the Trenches
Fleet Electrification
Part 2
BC Hydro
Plug In BC
Ministry of Citizens’ Services
Best Practices for EV Planning and Infrastructure

Jason Scultety, Key Account Manager – Fleet Electrification
BC Hydro
cleanBC
our nature. our power. our future.
Transportation

Electrification of the transportation sector is a key priority

Reducing B.C. Transportation Emissions
Transportation accounts for 39% of B.C.’s greenhouse gas emissions, or 25 million tonnes per year of carbon pollution. B.C. is committed to reducing GHG emissions steadily, over the next few decades.
Planning and Practices
Develop your EV roadmap

Know your fleet and know what you need

- Fleet audit & EV assessment
  - What part of my fleet is EV ready?
  - What is my EV fleet strategy?
  - Where are my fleet vehicles currently being used and how?
Engage with BC Hydro

Engage early and often with BC Hydro to help plan your EV roadmap

- Cooperation between Energy Managers, Fleet Managers, Facilities
- Consider site location carefully and be flexible
- Future load planning – expansions
- Package your projects into an EV Fleet plan
- Your electricity bill depends on how you charge
Choose your site wisely

There are a number of factors to consider when selecting an EV charging site

• Safety
• Accessibility
• Washrooms
• Coffee/food
• Egress
• Sight lines
• Lighting
• Nearest station
• Density
• Access to power
• Expandability
• Amenities
• Many more…
### Energy Requirement Charging Window Average Power Demand Per Vehicle Charging

<table>
<thead>
<tr>
<th>20 Chevy Bolts</th>
<th>8pm – 6am</th>
<th>200 kWh/day</th>
<th>20kW</th>
</tr>
</thead>
</table>
| X 50 km/day    | 10 hours per day | + 10 hours/day | = 20Ctrl
| X 0.2 kWh/km   |            |             | 20kW |
| = 200 kWh/day  |            |             | 20kW |

**Peak Demand**: 200 kWh/day

**Charging Requirement**

20kW ÷ 20 Chevy Bolts = 1kW

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**Charging Station Needs**

- **Needs**
  - 10 dual port L2
  - 20 L1
  - Load sharing
  - ~1.4kW per port
  - ~3.5kW per port
Fleet electrification rates

Two optional rates that will support electrification
Electric vehicles can improve your bottom line through lower operating and maintenance costs

Transportation accounts for 39% of B.C.'s GHGs—it’s time to plug in

Reliable power when you need it

EVs are fueled by B.C.’s 98% clean, green electricity generation

We want to hear from you. Contact our EV Fleet team and tell us how we can support your fleet electrification projects.

Contact our ev fleet team today
evfleet@bchydro.com
PLUG IN BC, FRASER BASIN COUNCIL
How to develop a business case & implement
For fleet electrification

revised Nov 14, 2019

EV Advisor, Plug In BC
Patrick Breuer
Setting the scene
Project: Charge Forward

Stakeholders
- Executive team
- Board of directors
- Union reps
- Fleet managers
- Estates manager
Drafting the plan

- Define the goal or target for the project
- Collect data on your fleet and analysis the information
- Come up with solutions and compare alternatives
- Develop the details that describe the pros and cons of each recommendation.
- Implement the plan and track progress against the project goal
Results
www.pluginbc.ca

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Ministry of Citizens’ Services
Real Property Division
• Asset Management Branch
• Corporate Sustainability
Context – The Portfolio

- Diverse portfolio: Office, Courthouses, Correctional Centres, Laboratories
- More than 1500 owned, leased or managed buildings across 111 communities
- Over 1.3M m² (14M sq.ft.) of space
- 473 owned buildings - 55% of the total portfolio
- 75% of our office space portfolio is leased
CleanBC Government Buildings Program

• Dedicated program for Ministry of Citizens’ Services managed buildings

• Energy retrofits, clean energy, space planning, adaptation &
  • Mandate to install EV charging stations
**EV Charging & Government Buildings**

- 25 EV charging stations have been installed in 2018/19:
  - 12 stations at 9 sites for employee/visitor use
  - 13 stations for fleet vehicles

Growth from 25 to 40 sites in 2019/20
Site Photos

4000 Seymour Pl, Victoria BC

999 Water Ave, Hope BC

2100 Labieux Rd, Nanaimo BC
Lessons Learned

• Process Issues
  • Training for the app
  • Users not respecting 2 hour limits on charging

• Safety protocols
  • Protruding cables into motorcycle lane

• Security
  • Vandalism
Questions?
Questions & Answers