

ELECTRIC VEHICLE (EV) ACTIVITIES AND TARIFF IMPLICATIONS

BC HYDRO RATE DESIGN APPLICATION (RDA)
FOLLOW-UP ENGAGEMENT MEETING WITH THE
BC SUSTAINABLE ELECTRICITY ASSOCIATION AND SIERRA CLUB OF BRITISH COLUMBIA (BCSEA)

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FOR GENERATIONS

October 10, 2014

OUTLINE

1. Background
2. Past EV Activities
 - Understanding impacts and preparing for EVs
3. Current EV activities
 - EV infrastructure deployment projects
 - Data collection and analysis
4. Tariff and Timing Implications
 - Load Forecast
 - Cost basis
 - Metering implications

RDA ENGAGEMENT – FEEDBACK AND RESPONSE

Workshop No. 1, May 8th – RDA Scope

<p>BCSEA</p>	<p>12. BCSEA agrees with the principle that BC Hydro avoid rate designs where it would need to know what happens behind the customer meter, except in the case of <u>Electric Vehicle (EV) Rates</u></p>	<p>BC Hydro is prepared to meet with BCSEA on this issue but notes that EV load is not material in the first 10 years of the 2013 load forecast (F2022: 125 GWh; F2028: 590 GWh)(May 2014 Load Forecast Update).</p>
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Workshop No. 3, June 25th – Residential Rate Design

BCSEA

- Very important for BC Hydro to put in place rate mechanisms designed to meet the unique needs of EV charging long before EV load becomes a material portion of the total load
- BC Hydro could play a valuable role in helping to reduce GHG emissions in BC by facilitating the adoption of EVs through implementing practical EV charging rates mechanisms



PAST EV ACTIVITIES AND DEVELOPMENT

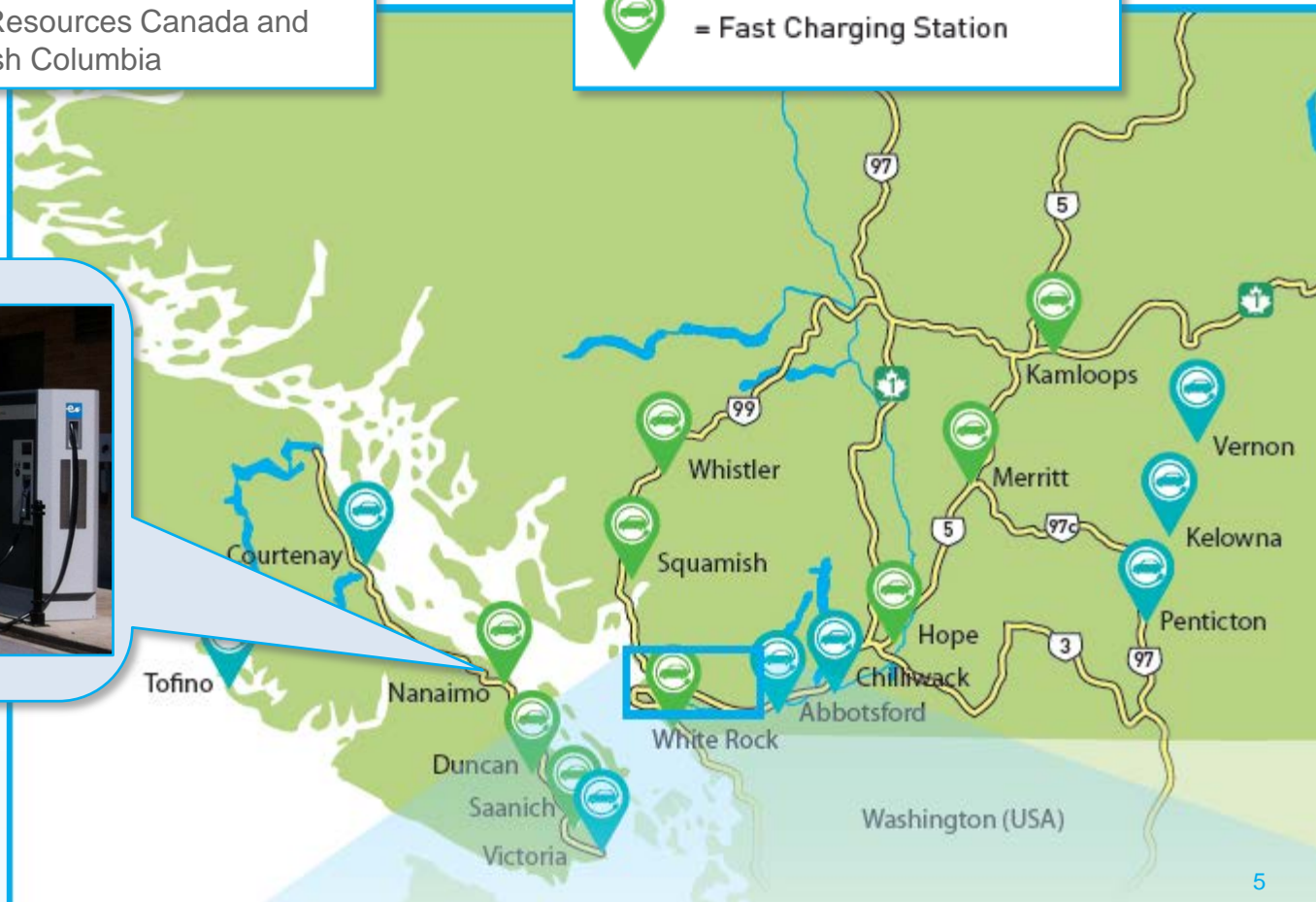
- Investigated customer needs and implications for BC Hydro:
 - Assessed EV impacts on the system
 - Generation capacity to meet EV demand
 - Potential Distribution bottlenecks
 - Incorporated potential EV load into the 2010 Load Forecast and subsequent load forecasts
- Introduced EVs into BC Hydro Fleet, starting in 2011

DC FAST CHARGING PILOT PROJECT

CRITICAL EV INFRASTRUCTURE NETWORK

- 30 DC Fast Charger (DCFC) Stations
- Project Deployment Schedule: 2012-2016
- Budget estimate: \$80,000 per station
- Funded by Natural Resources Canada and the Province of British Columbia

-  = Regular Charging Station
-  = Fast Charging Station



ASSESSING NEED AND PRACTICALITY OF AN EV RATE

- EV Rate Considerations
 - Mechanism to enforce off-peak charging
 - Separate EV rate would require a separate meter
 - Basis on which to determine cost of service and load implications for pricing?
 - Industrial Electricity Policy Review submissions indicated no support for end use rates unless they are cost-based

Plug-in EV Load Forecast (GWh)		
Fiscal Year	2012	2014 Update
F15	2	8
F16	5	15
F22	161	141
F28	733	625
F33	1,396	1,215

- **Why now?**
- No meaningful system impact of EV's within the next 10 years
- EV purchasing economics dominated by upfront premium price of an EV, not the already 5:1 gas to electricity fueling cost ratio