EV Ready Plan requirements

Ensure your plan meets the eligibility criteria for the rebate

B.C.'s EV charger rebate program includes a rebate for apartment/condo and townhomes to create an EV Ready plan.

WHAT IS AN EV READY PLAN?

An EV Ready Plan outlines a strategy that provides a minimum of one EV Ready parking space per residential unit. This helps ensure Multi–Use Residential Buildings have an approach to make their building future proofed to provide all residents with a simple process to access EV charging at their parking space.

WHAT DOES EV READY MEAN?

1. EV Ready means the parking space must have a termination point in an electrical wiring installation to power a level 2 Electric Vehicle Supply Equipment (EVSE). The termination point must be no more than 5 meters from any part of the parking stall it is supporting or the intended EVSE location(s). An EV Ready parking stall's connection point can terminate in a junction box as most EV ready designs utilize EV Energy Management Systems and load sharing. An electric receptacle is acceptable if dedicated circuit configurations are used.
2. Junction boxes must be clearly labelled to identify which parking stall(s) it is supporting.

WHO CAN CREATE THE EV READY PLAN?

To be eligible for the rebate, your plan must meet the program requirements. The plan can be created by a licensed electrical contractor and/or a registered professional electrical engineer.

Please note that BC Hydro will accept only one proposed solution with a single cost that describes the strata and/or building owners preferred option. This single cost must include for EV Readiness as described in the program, and address all costs, including those associated with network/telecom equipment and infrastructure as needed to ensure its operation.

Your EV Ready Plan must include the following elements

1. Property and Company Details

a. Date the EV Ready Plan was prepared:
b. Building address (indicate if it's a strata or rental building):
c. Strata and/or contact (including phone number and email address) for the building
d. Name and contact information (including phone number and email address) of who the Plan was created by: (must be a licensed electrical contractor and/or a registered professional electrical engineer)
e. Within the EV Ready Plan, the electronic signature of the Plans author declaring they understand and have met the EV Ready Plan requirements.
f. Number of residential units:
g. Number of residential parking stalls:
h. Number of strata own commercial/visitor parking stalls if it is applicable
i. Number of parking stalls to be made EV Ready (Minimum requirement of one EV Ready stall per residential unit)
j. Number of EVSE's to be installed
k. Number of existing EV parking stalls

2. Electrical capacity assessment—All units of measure must be kilowatt (kW)

a. What is the existing electrical main service size?
b. What is the existing peak demand on the main service and how was it determined?
c. What is the spare capacity prior to EVSE installation?

3. Charging performance assessment

A charging performance assessment is the analysis of required charging power in order to achieve reasonable driving range, when all parking spaces are used by an EV. This is used to determine power requirements based on the resident's needs.

Include an explanation of how the charging performance was determined and all the variables that were accounted for.

The charging performance assessment must include the following factors:

a. Average daily distance travelled by vehicles and how this was determined.

b. If any recommendations, guidelines, regulations, or standards were used, describe which ones and why they were referenced.

c. Charging performance per vehicle as they relate to the needs of the user. This should include minimum kW required per vehicle, when all parking spaces are used by an EV. Based on this minimum kW, include the estimated minimum kilometers charged per hour as well. Explain how this was calculated.

The charging performance assessment may include the following factors:

a. Climate (e.g. colder temperatures)

b. Topography (e.g. hillier landscapes)

c. Demographics of building residents (e.g. age, household sizes)

d. Vehicle sizes

- See Appendix A for the minimum charging performance guidelines

4. Recommended solution for parking spaces to be made EV Ready

The single recommended solution must meet or exceed the EV Ready Program requirement for the parking space must have a termination point in an electrical wiring installation to power a level 2 Electric Vehicle Supply Equipment (EVSE). The termination point must be no more than 5 meters from any part of the parking stall it is supporting or the intended EVSE location(s).

a. Identify the EVSE to breaker ratio of the recommended solution (e.g.–4 chargers per 40A breaker). Explain why this solution was chosen.

b. What is the total potential EVSE load based on the recommended number of EVSE's per circuit?

c. What would be the main service spare capacity after EVSE installation?

d. Provide a clear statement for:

   a) Is the existing service sufficient and why? Or

   b) Is a service upgrade required, and if so, what is required?

e. Identify any existing EV chargers and how they will be integrated into the new EV charging system, including load analysis and the effects on the main distribution.

f. Identify conditions of the existing telecom/network infrastructure and if it can handle the new EV charging equipment.

g. Identify the costs associated with the telecom/network hardware and infrastructure that is required to ensure its operation and functionality. For designs where integration with an existing Energy Management System or establishment of a new Energy Management System is intended, the electrical infrastructure should include all communications equipment, control systems installation, licensing, and permitting required to operate the system.

h. Specify what Level 2 Networked EVSE model(s) will be compatible with the one recommended design solution, as well as a compatible EV energy management system (may be built into the EVSE).

5. Cost estimates sufficient for budgeting purposes

a. Include a cost estimate to install the electrical infrastructure, telecommunication/network upgrades if required, and EVSE (if applicable) for the one design option being recommended.

Appendix A: minimum charging performance guidelines

PURPOSE OF THE GUIDELINES

Performance guidelines ensure adequate power is delivered to residential parking spaces for the purposes of EV charging. Without such performance guidelines, electrical designs may include excessive load sharing, resulting in insufficient power to provide an adequate rate of charging.

The following table outlines minimum charging performance guidelines.

Annual distance in kilometers	9,125	12,775	16,425	21,900
Daily kilometers travelled	25	35	45	60
Breaker amperage	**Maximum number of EVSE per circuit**	**Maximum number of EVSE per circuit**	**Max number of EVSE per circuit**	**Max number of EVSE per circuit**
20	3	1	0	0
30	7	4	2	0
40	10	6	4	2
50	14	8	5	3
60	17	11	7	4
70	21	13	9	5
80	24	15	10	6
90	28	17	12	7
100	31	20	13	8
125	35	26	18	11
150	45	32	22	14
200	62	40	31	20

VARIABLES EFFECTING CHARGING PERFORMANCE

Variables that affect charging performance include, but are not limited to the following elements:

- Distance travelled by vehicles
- Climate (e.g. colder temperatures)
- Topography (e.g. hillier landscapes)
- Demographics of building residents (e.g. age, household sizes)
- Vehicle sizes

Disclaimer

When applying for EV Ready Plan program funding a customer acknowledges and agrees that the electrical contractors and/or companies a customer works with are not employees of BC Hydro or the Province of BC. BC Hydro and/or the Province of BC does not endorse or guarantee contractors or their services. Customers are responsible for ensuring work meets the program requirements, manufacturer's instructions (if applicable) and all applicable codes, standards and regulations, including securing any electrical permits.