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March 12, 2024

Commercial Energy Consumers Association of British Columbia
c/o Owen Bird Law Corporation
Vancouver Centre II
2900 – 733 Seymour Street
Vancouver, BC
V6B 0S6

Attention: Christopher P. Weafer

Dear Christopher P. Weafer:

Re: FortisBC Inc. (FBC)

FBC Electric Vehicle (EV) Direct Current Fast Charge (DCFC) Energy-Based Rate Application (Application)

Response to the Commercial Energy Consumers of BC (CEC) Information Request (IR) No. 1

On December 22, 2023, FBC filed the Application referenced above. In accordance with the regulatory timetable established in BCUC Order G-17-24 for the review of the Application, FBC respectfully submits the attached response to CEC IR No. 1.

For convenience and efficiency, if FBC has provided an internet address for referenced reports instead of attaching the documents to its IR responses, FBC intends for the referenced documents to form part of its IR responses and the evidentiary record in this proceeding.

If further information is required, please contact the undersigned.

Sincerely,

FORTISBC INC.

Original signed:

Sarah Walsh

Attachments

cc (email only): Commission Secretary
Registered Parties

SCOPE: The costs, utilization, and other assumptions that support FBC's energy-based rate proposal.

1. Reference: Exhibit B-1, page 2 and page 18

> On February 20, 2023, Measurement Canada announced a temporary dispensation program for commercial level 3+ EV charging devices that permits energy-based (i.e., kWh) meters to be used at level 3+ EV charging stations that are in-service prior to July 1, 2024 without verification and sealing, subject to the terms and conditions of the temporary dispensation program.[2] On December 18, 2023, FBC applied to Measurement Canada's temporary dispensation program for its existing EV DCFC charging stations and expects to receive approval early in 2024. FBC's

> FBC applied to Measurement Canada's temporary dispensation program on December 18, 2023 for all of its existing EV DCFC charging stations and expects to receive approval in early 2024. Once approved, the temporary dispensation program will enable energy-based (i.e., kWh) metering for stations that were in-service prior to July 1, 2024 without verification and sealing, subject to the terms and conditions of the temporary dispensation program.

1.1 Please explain if FortisBC has already received Measurement Canada's approval, or is still contemplating approval in early 2024.

Response:

FBC has not received approval from Measurement Canada, but expects to receive approval in the first half of 2024.

1.2 What potential obstacles exist to Measurement Canada's approval, if any?

Response:

FBC does not anticipate any obstacles with respect to receiving approval from Measurement Canada.

1.3 Please explain, and include the import of, the statement 'without verification and sealing'.

Response:

As FBC's DCFC charging stations were in-service before July 1, 2024, verification and sealing of the charging station metering is not required.

DCFC charging stations installed between July 1, 2024 and December 31, 2029 must meet additional verification and sealing requirements in order to receive temporary dispensation. These requirements include verification that electricity supplied to the customer is within an acceptable limit of error of ±3%, either using a verification method acceptable to Measurement Canada, or via written attestation from the metering manufacturer. The metering then must be "sealed" to ensure that the metering equipment and related software cannot be changed.

1.4 When does FBC expect that Measurement Canada will enable permanent energy-based metering?

Response:

Measurement Canada has not yet indicated when it will permanently enable energy-based metering.

1.4.1 What additional requirements will FBC likely face when energy-based metering can be made permanent?

Response:

FBC does not have any indication as to the requirements for permanent energy-based metering (i.e., for stations installed after December 31, 2029 when the temporary dispensation ends), but it is FBC's intention that any new or replacement stations installed would meet the requirements at that time.

2. Reference: Exhibit B-1, page 8 and page 9

Table 2-1: List of FBC's Current 50 kW and 100 kW EV DCFC Stations

Station Name	50 kW Station	100 kW Station
Beaverdell	2	-
Castlegar	1	1
Christina Lake	1	1
Creston	2	-
Grand Forks	2	-
Greenwood	1	1
Kaslo	1	-
Kelowna Airport	1	1
Kelowna Museum	2	-
Keremeos	1	1
Kootenay Bay	2	-
Naramata	2	-
Nelson	2	-
Oliver	2	-
Osoyoos	1	1
Penticton	2	-
Princeton	1	1
Rock Creek	1	1
Rossland	2	-
Rutland	2	-
Salmo	1	-
Trail	2	-
Total	34	8

Table 2-2: Charging Minutes, Utilization % and Year-over-Year Growth Rates for 50 kW and 100 kW EV DCFC Stations (2018 Actual to 2022 Actual and 2023 Projected)

	50 kW			100 kW		
Year	Charging Minutes	Utilization %	Year-over-Year Growth Rates	Charging Minutes	Utilization %	Year-over-Year Growth Rates
2018	15,309	0.6%				
2019	94,386	1.6%	180%			
2020	110,504	0.8%	(54%)			
2021	231,942	1.3%	73%	16,539	0.5%	
2022	410,783	2.2%	67%	54,933	1.3%	149%
2023	531,009	3.0%	37%	127,815	3.0%	133%

2.1 For each station, please provide annual charging minutes and utilization rates for each year 2019-2023 inclusive.

2.1.1 Please also provide forecast minutes and utilization rates for each station to 2030.

Response:

Please refer to the response to BCUC IR1 4.1.

2.1.2 Please provide utilization rates for all stations collectively by hour for 2021, 2022 and 2023.

Response:

Please see Table 1 below for utilization rates for all stations collectively by hour for 2021 to 2023. FBC notes that New Denver and Nakusp have been excluded as these stations have been transferred to BC Hydro.

Table 1: Average Utilization Rate by Hour for 50 kW and 100 kW Stations (2021 to 2023)

Hour	2021	2022	2023
0	0.1%	0.6%	0.6%
1	0.1%	0.2%	0.6%
2	0.1%	0.1%	0.5%
3	0.0%	0.1%	0.4%
4	0.0%	0.1%	0.2%
5	0.1%	0.2%	0.3%
6	0.4%	0.6%	0.8%
7	0.7%	1.1%	1.9%
8	1.1%	2.3%	3.4%
9	1.8%	2.9%	4.7%
10	2.2%	3.7%	5.5%
11	2.8%	4.2%	6.3%
12	2.8%	4.5%	6.5%
13	2.7%	4.4%	5.9%
14	2.4%	4.0%	6.0%
15	2.3%	4.0%	5.6%
16	2.3%	3.5%	5.0%
17	2.1%	3.2%	4.7%
18	1.5%	2.7%	4.1%
19	1.1%	2.2%	2.7%
20	0.8%	1.4%	1.9%
21	0.5%	0.9%	1.2%
22	0.3%	0.7%	1.1%
23	0.1%	0.7%	0.7%

2.1.3 Please provide a breakdown of stations between more urban stations and more rural stations and provide the collective utilizations for each grouping for 2021, 2022 and 2023 by hour or, if more convenient, please provide utilizations by hour for 2021, 2022 and 2022 for each station.

Response:

FBC is unable to provide hourly data by station or by grouping. This information is not readily available and would require significant time and resources to extract and process the raw hourly data for 365 days over three years across 42 stations. For utilization data (annual only, not by hour) by station, please refer to the confidential attachment in the response to BCUC IR1 4.1.

3. Reference: Exhibit B-1, page 9 and Appendix A, Compliance Report page 5

> The reduced utilization in 2020 for FBC's 50 kW stations was primarily due to the lack of EV deliveries to Canada, as well as the COVID-19 pandemic which led to travel restrictions beginning in the Fall of 2020. FBC believes the COVID-19 pandemic and the subsequent global supply chain issues limited the growth of EV adoption and utilization in 2020 and also impacted growth in 2021 and 2022.
>
> FBC also notes the following factors that further limited the utilization and year-over-year growth for 2023:
>
> 1. The 50 kW stations in New Denver and Nakusup were transferred to BC Hydro in November 2022 as approved by Order G-215-21. As such, the total charging minutes in 2023 were reduced as a result of excluding these two stations.
> 2. The charging stations in Castlegar (50 kW and 100 kW) have been out of service since May 2023 due to the construction of the new building for the Castlegar Chamber of Commerce.[9] The stations recently re-opened in December 2023 with limited access only, but FBC expects the stations will return to full service in early 2024 after construction is complete.[10]

> As shown in Tables 2-2 and 2-3 below, the actual charging minutes have been growing each year since 2018 with the total minutes in 2018 and 2019 exceeding the original forecasts;[3] however, the growth has been lower than forecast starting in 2020, which coincides with the timing of the COVID-19 pandemic, despite BC consistently leading the country in EV sales.[4]
>
> As supply chain issues related to the COVID-19 pandemic and shortages of EV deliveries are gradually beginning to resolve and people are now permitted to travel throughout the Province, FBC expects the usage of its EV DCFC stations will return to the forecasts outlined in the Revised Application.

Table 2-2: 50 kW Forecast vs. Actual Usage

Year	Forecast (Mins)	Actual/Projected (Mins)	Difference (%)
2018	10,950	15,309	40%
2019	13,440	94,386	602%
2020	393,881	110,504	(72%)
2021	762,328	229,342	(70%)
2022	1,017,534	405,423	(60%)

Table 2-3: 100 kW Forecast vs. Actual Usage

Year	Forecast (Mins)	Actual/Projected (Mins)	Difference (%)
2021	71,953	16,539	(77%)
2022	104,393	53,016	(49%)

3.1 Why has FBC not adjusted its forecasting to reflect substantive over-forecasting in prior years?

<u>Response:</u>

The premise of this IR is inaccurate. For clarity, as part of the proposed energy-based rate, FBC <u>did</u> adjust its forecast to reflect the current utilization at each station and expected growth rates using Dunsky's forecast of light-duty EV sales in FBC's service area from 2023 to 2040. This is discussed in Section 3.2.1.2 of the Application.

FBC notes that the first two paragraphs in the preamble to this IR (including factors #1 and #2 described as part of the second paragraph) are extracted from page 9 of this Application, whereas the last two paragraphs and Tables 2-2 and 2-3 are extracted from FBC's RS 96 Detailed Assessment Report filed in compliance with G-341-21. While FBC filed the RS 96 Detailed Assessment Report as Appendix A to the Application, the table included in the actual body of the Application (also on page 9 of the Application) is the table relevant to the discussion in the first two paragraphs in the preamble to this IR.

3.2 When, if ever, does FBC expect usage to return to forecast levels?

Response:

FBC does not expect that usage will return to the forecast levels referenced in the preamble to this IR, as these forecasts were provided as part of the Revised Application in 2020 for setting the time-based rates and were based on the best information available at that time. As explained in the response to CEC IR1 3.1, for the proposed energy-based rate, FBC updated the forecasts from 2024 onwards reflecting the current utilization rates and expected growth of EV sales in FBC's service area. FBC expects the usage going forward would be more in line with the forecast used in this Application.

3.3 Please explain how FBC calculated its actual utilization rates.

Response:

The utilization rate is calculated based on actual total annual charging minutes from FBC's stations divided by the maximum total number of minutes that the stations are open for public use, which is year-round 24 hours per day, 7 days per week.

3.4 Please confirm or otherwise explain that the calculation of utilization rates (as opposed to total charging minutes) would account for the reduction in charging stations in New Denver, Nakusp, and Castlegar.

Response:

Please refer to the responses to BCOAPO IR1 4.1 and 4.2 which discuss New Denver and Nakusp, and BCOAPO IR1 4.3 which discusses Castlegar. Actual data for New Denver, Nakusp, and Castlegar were included in Table 2-2 of the Application. However, the actuals from New Denver and Nakusp are not included for the purposes of forecasting charging minutes from 2024 and onward, and for Castlegar, the forecasts from 2024 onward are adjusted to reflect the closure in 2023.

4. Reference: Exhibit B-1, page 19 and page 23 and page 27

> ***3.2.1.1 Levelization Period***
>
> FBC's RS 96 EV charging rates were originally set on a levelized-cost basis from 2018 to 2030 for the 50 kW stations (13 years) and from 2021 to 2030 for the 100 kW stations (10 years). The levelized costs were based on the original planned installation schedule of all stations to be complete in 2021 with an expected service life of 10 years for the DCFC stations.
>
> FBC is proposing to reset the rates for its EV DCFC service starting in 2024 over a 10-year levelization period (i.e., 2024 to 2033). For clarity, the cost-of-service analysis over the 10-year period includes the actual accumulated deficiency of approximately $15 thousand discussed in Section 2.2 as a cost in 2024. As such, the proposed energy-based rate is designed to fully recover the cost-of-service of FBC's EV DCFC service since inception to 2033, including past surpluses/deficiencies from 2018 to 2023, and the forecast cost-of-service from 2024 to 2033.

> As discussed in the 2024 Annual Review[40], the 2023 Projected capital expenditures are primarily due to unbilled charges of approximately $0.363 million from 2022 construction activities related to the planned DCFC stations in Keremeos and Princeton, which were originally identified in the Revised Application approved by Order G-215-21.[41] The construction was completed in 2022 but FBC did not receive all invoices for the work until 2023.
>
> The remaining capital expenditures in 2023 Projected and the 2024 Forecast capital expenditures are related to the accessibility improvement work at FBC's existing EV DCFC sites which was started in 2023. As identified in the RS 96 Assessment Report, FBC worked with a focus group

> FBC notes that in BC Hydro's Public Electric Vehicle Fast Charging Service Rate Application, dated July 28, 2023, a 7-year amortization period was used for charging station capital costs based on an average between 5 and 10 years, as recommended by BC Hydro's consultant Concentric and approved by Order G-91-23.[50] Despite BC Hydro's use of a 7-year amortization period for its charging station assets, FBC continues to believe that an expected service life of 10 years for its DCFC stations is reasonable and appropriate. First, FBC has been exclusively using one manufacturer (AddEnergie), who continues to support the use of a 10-year expected service life for their EV charging stations, whereas, to FBC's knowledge, BC Hydro has used a mix of different manufacturers of EV charging stations. Second, the use of a 10-year depreciation rate is consistent with various utilities in other jurisdictions as highlighted above. Finally, FBC"s oldest stations were first installed and placed in-service in 2018 and will therefore be reaching six years in 2024. FBC has not experienced any major failures to its stations that required a complete replacement and there has been no sign that any of its oldest stations will require replacement within the next year (i.e., when reaching 7 years old). As such, FBC continues to expect its DCFC stations will reach the expected service life of 10 years and does not propose a new depreciation rate, nor does FBC have information to support an expected service life other than 10 years.

4.1 Please confirm, or otherwise explain, the CEC's understanding that FBC expects the 100 kW stations to be at the end of their service life between 2028 (oldest stations installed in 2018) and 2030 (installed in 2021).

4.1.1 If not confirmed, please provide the new expected end of service life for the stations, and please explain why this has changed.

<u>Response:</u>

For clarity, FBC's oldest stations installed in 2018 were 50 kW stations, not 100 kW stations. FBC installed its 50 kW stations between 2018 and 2022, whereas the 100 kW stations were installed between 2021 and 2022. FBC's oldest stations installed in 2018 will reach their expected 10-year service life in 2028. However, FBC's most recent stations were installed near the end of 2022 and will therefore reach their 10-year expected service life in 2032.

Please refer to the response to BCUC IR1 3.1 for further information regarding the use of the 10-year levelization period from 2024 to 2033 for the proposed energy-based rate. Further, and as explained on page 24 of the Application, FBC has included future like-for-like replacement costs for stations reaching their expected end of service life prior to 2033 as part of the proposed levelized energy-based rate calculation. Please also refer to the responses to BCOAPO IR1 18.3 and 18.5 for an explanation of the replacement costs included in the cost-of-service model for the 50 kW stations and 100 kW stations, respectively.

4.2 Please explain if and how FBC has accounted for the cost of station replacement between 2028 and 2031 in its cost-of-service analysis, given that the levelization period ends in 2033.

Response:

Please refer to the response to CEC IR1 4.1.

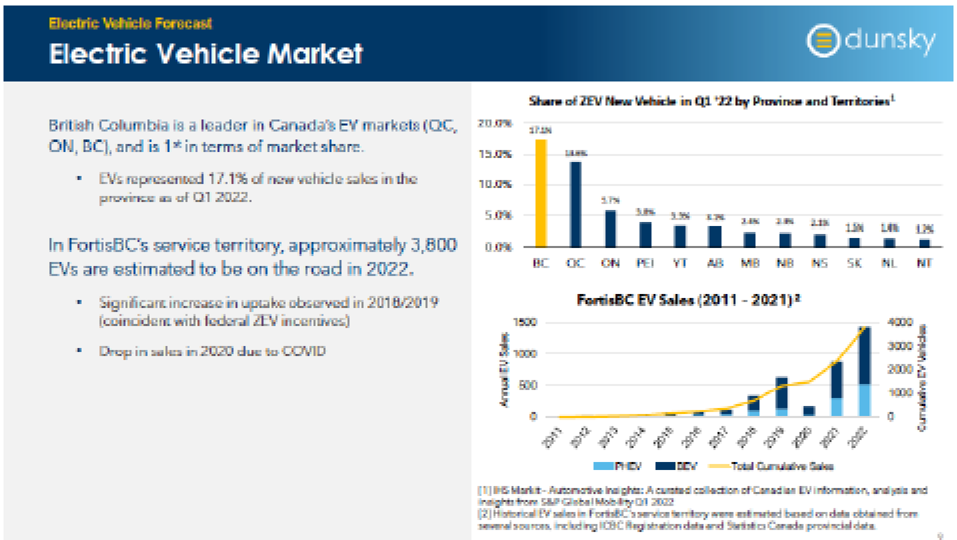
4.3 Please calculate the rates assuming a 7-year amortization period, with the levelization period ending in 2030.

Response:

Please refer to the response to BCUC IR1 3.1.

5. Reference: Exhibit B-1, page 19 and Appendix F page 9

> In order to develop the growth rates for FBC's owned EV DCFC stations, FBC engaged Dunsky Energy + Climate Advisors (Dunsky) to provide a forecast of light duty EV sales in the FBC service area from 2023 to 2040 based on three growth scenarios, i.e., low growth, medium growth, and high growth, depending on various factors such as public charging infrastructure, existing building charging infrastructure retrofits, availability of vehicle incentives, government policy, and local availability of EV stock. Table 3-1 below summarizes Dunsky's three growth scenarios for light duty EVs, and Table 3-2 provides the growth rates for the three scenarios. The Dunsky analysis is included as Appendix F.



5.1 Please provide the FortisBC EV Sales numbers for 2023.

<u>Response:</u>

The EV Sales numbers for 2023 have not yet been published by the Ministry of Energy Mines and Low Carbon Innovation, but these are expected after the 2023 ZEV Report is released by the end of April 2024. EV registration data for 2023 has also not been released by ICBC at the time of filing these IR responses. FBC is currently working with ICBC and has a pending request for data sharing in an effort to receive EV registration data more regularly for its service territory.

5.2 Please provide the year in which the Dunsky report was developed.

<u>Response:</u>

The Dunsky report was developed in 2023.

5.3 Please confirm or otherwise explain that the Dunsky report incorporates and reflects any reductions that arose as a result of Covid-19 and supply chain issues.

Response:

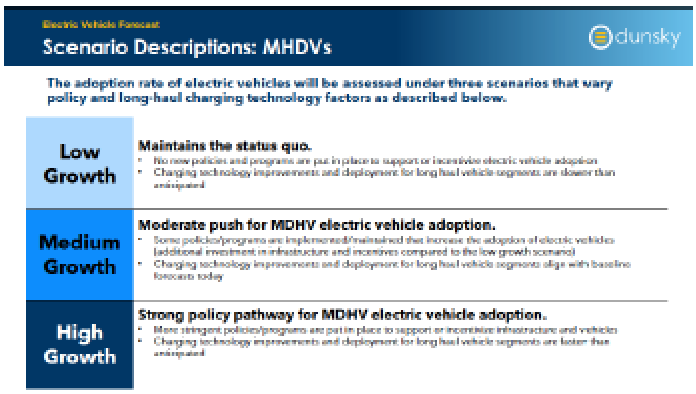
Confirmed.

6. Reference: Exhibit B-1, page 20, and page 20 and Appendix F page 16

Table 3-1: Dunsky's Three Growth Scenarios for EV Sales in FBC Service Area

Parameter	Scenario 1: Low Growth	Scenario 2: Medium Growth	Scenario 3: High Growth
Public Charging Infrastructure Expansion	Limited (Planned Investments + Current Growth Trajectory)	Moderate (Planned Investments + Accelerated Growth Trajectory)	Significant (Does not Constrain Adoption)
Vehicle Incentives (Provincial and Federal)	Current Incentives: BEVs: $4,000 PHEVs: $2,000 (Ramped down + Phased-out by 2026)	Current Incentives, Extended: BEVs: $4,000 PHEVs: $2,000 (Ramped down + Phased-out by 2030)	Expanded Incentives: BEVs: $8,000 PHEVs: $4,000 (Ramped down + Phased-out by 2035)
Zero-emission Vehicle (ZEV) Mandates	None	100% by 2040 In alignment with current provincial regulations (ZEV Act)	100% by 2035 In alignment with proposed provincial regulation (CleanBC Roadmap to 2030)
Local Availability	Limited 50% of dealerships have EVs for sale by 2040	Moderate 100% of dealerships have EVs for sale by 2040	Significant 100% of dealerships have EVs for sale by 2035

In setting the energy-based rates from 2024 to 2033 as part of this Application, FBC applied the medium scenario growth rates from Dunsky's analysis to all of FBC's EV DCFC stations with a



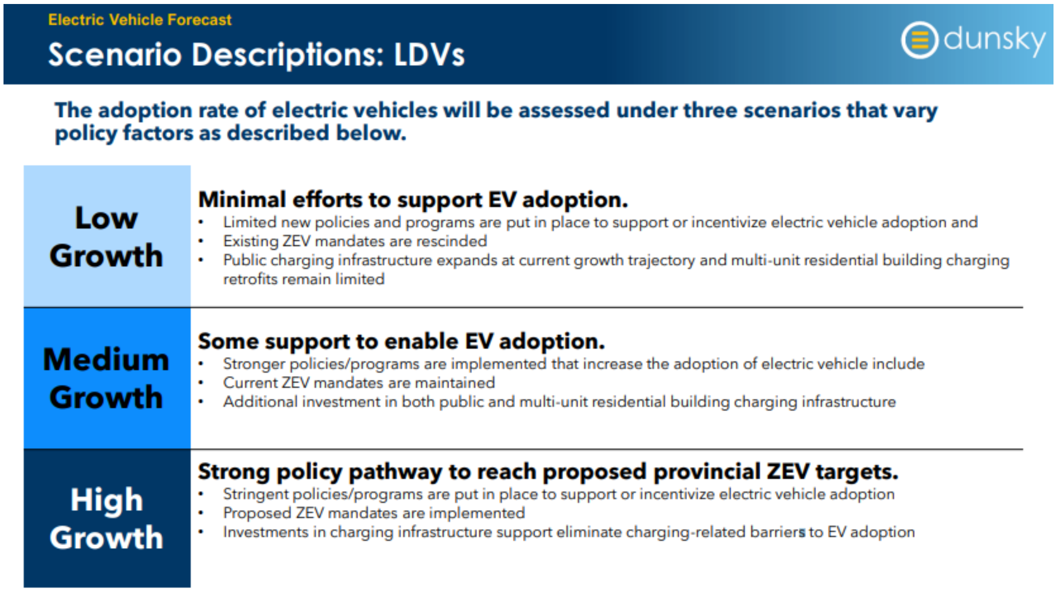
6.1 The CEC has reviewed Appendix F and does not find a recommendation as to the appropriate Scenario for FBC to use when setting its energy-based rates. Please provide the factors that FBC considered when selecting the Medium Growth scenario for its analysis, and why it did not select either the Low Growth (status quo) or the High Growth scenarios (proposed provincial legislation).

<u>Response:</u>

FBC notes the figure shown in the preamble above is for the medium-and-heavy-duty vehicle (MDHV) scenarios from Appendix F of the Application (Dunsky's analysis). FBC expects there would be no or very limited MDHVs using FBC's DCFC stations.

Table 3-1 of the Application reflects the light-duty vehicle (LDV) scenarios from page 13 of Dunsky's analysis which are used for the purpose of forecasting the utilization of FBC's DCFC stations. Figure 1 below provides the LDV scenarios from Dunsky's analysis.

Figure 1: Dunsky Light-Duty Vehicle Scenario Descriptions from Appendix F of the Application



FBC considered both the medium and high growth scenarios prior to selecting the medium growth scenario. Both scenarios are reasonably reflective of the current trend of legislative support of EV adoptions; however, FBC conservatively decided to use the medium growth scenario given the rate impact between the medium and high scenarios is small, as shown in Table 3-7 of the Application. FBC did not consider using the low growth scenario because FBC does not believe it would be reasonable to assume current ZEV mandates would be rescinded and there would be no or limited new polices to support adoption of EVs, as such assumptions are not reflective of the current trend of legislative support.

6.2 Please discuss how FBC's cost of service analysis and the setting of energy-based rates could be affected by assuming the Low Growth scenario, and please provide quantification where possible.

<u>Response:</u>

FBC has filed an Evidentiary Update to the Application concurrently with these IR responses which updates FBC's proposed energy-based rate from $0.42 per kWh to $0.39 per kWh. FBC is responding to this information request based on the updated proposed energy-based rate of $0.39 per kWh.

If the low growth scenario were assumed, there would be a reduction in the forecast utilization at FBC's DCFC stations which would reduce the forecast revenues from FBC's stations. The 10-year levelized energy-based rate would increase to $0.47 per kWh from the proposed $0.39 per kWh in the Evidentiary Update, which is a 21 percent increase. At $0.47 per kWh, FBC's EV DCFC stations would be the most expensive in FBC's service area, as shown in Table 2-5 of the Application, and would be approximately 38 percent more expensive than BC Hydro's proposed energy-based rate of $0.34 per kWh.

If the high growth scenario were assumed, there would be an increase in the forecast utilization at FBC's DCFC stations, which would increase the forecast station revenues. The 10-year levelized energy-based rate would decrease to $0.35 per kWh from the proposed $0.39 per kWh in the Evidentiary Update. At $0.35 per kWh, FBC's EV DCFC stations would remain reasonable when compared to other service providers in FBC's service area, such as Tesla which is offering a charging rate between $0.26 per kWh and $0.40 per kWh as shown in Table 2-5 of the Application. However, this rate would be notably lower than the Charger Quest offering, which is between $0.40 per kWh and $0.45 per kWh.

Ultimately, as discussed in the response to CEC IR1 6.1, the difference between the high and medium scenarios is small. FBC considers the medium scenario to be more conservative and the most appropriate.

6.3 Please discuss how FBC's cost of service analysis and the setting of energy-based rates could be affected by assuming the High Growth scenario, and please provide quantification where possible.

Response:

Please refer to the response to CEC IR1 6.2.

7. Reference: Exhibit B-1, pages 20-21 and page 9

In setting the energy-based rates from 2024 to 2033 as part of this Application, FBC applied the medium scenario growth rates from Dunsky's analysis to all of FBC's EV DCFC stations with a

cap of maximum utilization at 54 percent at each station. The maximum utilization of 54 percent is based on FBC's estimates of historical utilization on an hourly basis at its own EV DCFC stations, which showed approximately 90 percent of the public EV charging activities occurred between 8 am and 7 pm each day. FBC notes that it used the low and high growth scenarios from the Dunsky analysis as part of the rate impact assessment in Section 3.3.3 below.

Table 2-2: Charging Minutes, Utilization % and Year-over-Year Growth Rates for 50 kW and 100 kW EV DCFC Stations (2018 Actual to 2022 Actual and 2023 Projected)

	50 kW			100 kW		
Year	Charging Minutes	Utilization %	Year-over-Year Growth Rates	Charging Minutes	Utilization %	Year-over-Year Growth Rates
2018	15,309	0.6%				
2019	94,386	1.6%	180%			
2020	110,504	0.8%	(54%)			
2021	231,942	1.3%	73%	16,539	0.5%	
2022	410,783	2.2%	67%	54,933	1.3%	149%
2023	531,009	3.0%	37%	127,815	3.0%	133%

7.1 Please elaborate upon and provide the calculations to justify the '54% maximum historical' utilization.

Response:

Please refer to the response to BCUC IR1 4.2.

7.2 Does the 54% maximum essentially assume 100% usage during the 8 am to 7 pm time period? Please explain.

Response:

Please refer to the response to BCUC IR1 4.2.

7.3 Please discuss whether or not FBC can add charging ports at its stations and provide the cost of doing so.

Response:

Each FBC DCFC station currently installed is equipped with a single charging port with two types of connectors, (i.e., CCS and CHAdeMO), and the currently installed models are not capable of being retrofitted with additional charging ports. Additional charging ports can therefore only be added with new stations or by replacing existing stations with higher power stations capable of dual charging (i.e., FBC is aware that FLO has a 320 kW DCFC model with dual charging providing 160 kW each when both vehicles are charging at the same time). FBC currently has no plans to add new dual charging stations and does not have cost information for these types of chargers.

8. Reference: Exhibit B-1, pages 20 and 21 and Appendix F page 14

Table 3-2: Growth Rates for Dunsky's Three Growth Scenarios for EV Sales in FBC Service Area

	Growth Scenario		
Year	Low	Medium	High
2024	44%	47%	54%
2025	36%	39%	45%
2026	32%	36%	42%
2027	32%	38%	43%
2028	31%	37%	38%
2029	30%	35%	33%
2030	30%	32%	30%
2031	29%	28%	26%
2032	26%	25%	23%
2033	23%	22%	20%
2034	21%	19%	18%
2035	18%	17%	17%
2036	16%	15%	15%
2037	14%	14%	13%
2038	13%	13%	12%
2039	12%	12%	11%
2040	11%	12%	10%

3.2.1.3 Electric Consumption and Cost of Electricity Forecast

The dispensed electricity is the amount of electricity taken by the EV during charging and will be used to determine the total cost of each EV charging event by the customer based on the proposed energy-based $ per kWh rate. For the purpose of forecasting the dispensed electricity from 2024 to 2033 over the 10-year levelized period, FBC assumed there is a direct correlation between the number of charging minutes and dispensed electricity in kWh. Thus, based on the same approach for forecasting station utilization described in Section 3.2.1.2 above, FBC applied the same annual growth rates of forecast EV sales in FBC's service area from Table 3-2 above under the medium growth scenario from the Dunsky analysis to the historical dispensed electricity in kWh recorded in 2023 as the base year. The forecast dispensed electricity is used for the revenue forecast from 2024 to 2033 as well as to estimate the metered electricity as discussed below.

The metered electricity is the total amount of electricity consumed by the EV DCFC station, which includes the amount of electricity dispensed into the EV during charging as well as all other ancillary electric consumption at the station such as electronic equipment, fans, display screen, telecommunication, etc. It also includes the amount of electric consumption during stand-by (i.e., when there is no EV charging event occuring). All of the ancillary electric consumption is based on the commercial electric service of RS 21 and forms part of the cost of electricity calculation

Electric Vehicle Forecast

Scenarios: Light Duty Vehicles

dunsky

Parameter	Scenario 1: **Low Growth**	Scenario 2: **Medium Growth**	Scenario 3: **High Growth**
Policy/Program Interventions			
Public charging infrastructure expansion	Limited *Planned investments + current growth trajectory*	Moderate *Planned investments + accelerated growth trajectory*	Significant *Does not constrain adoption*
Vehicle incentives[1]	Current incentives ***BEVs:*** *$4,000* ***PHEVs:*** *$2,000* *(Ramped down + phased out by 2024)*	Current incentives, extended ***BEVs:*** *$4,000* ***PHEVs:*** *$2,000* *(Ramped down + phased out by 2030)*	Expanded incentives ***BEVs:*** *$8,000* ***PHEVs:*** *$4,000* *(Ramped down + phased out by 2035)*
Existing building charging infrastructure retrofits	Limited *15% of multi-unit buildings with access to charging by 2035*	Moderate *40% of multi-unit buildings with access to charging by 2035*	Significant *90% of multi-unit buildings with access to charging by 2035*
Zero-emission Vehicle (ZEV) Mandates[4]	None	100% by 2040 *in alignment with current provincial regulations[2]*	100% by 2035 *in alignment with proposed provincial regulations[3]*
Local Availability	Limited 50% of dealerships have EVs for sale by 2040	Moderate 100% of dealerships have EVs for sale by 2040	Significant 100% of dealerships have EVs for sale by 2035

[1] Scenario incentives are based upon a mix of provincial and federal incentives.
[2] See the Zero-Emission Vehicles Act (ZEV Act) and accompanying ZEV Regulation.
[3] See B.C. Zero-Emission Vehicles Act and Regulation: 2022 Formal Review Intentions Paper.
[4] The study assumes that light-duty ZEV mandates will be achieved entirely with BEVs.

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8.1 Please confirm or otherwise explain that FBC's methodology for forecasting dispensed electricity assumes that there is a consistent relationship between EV sales and charging occurring in FBC stations.

Response:

Confirmed. However, FBC has also applied a 54 percent maximum utilization cap at each station when forecasting charging minutes and dispensed electricity. As such, the consistent relationship between EV sales and charging that FBC assumed for the purpose of forecasting charging minutes and dispensed electricity stops when the individual stations reach the maximum utilization cap. Please refer to the response to BCUC IR1 4.1 for further discussion on how FBC applies the growth rate of EV sales from Dunsky's analysis and the cap of 54 percent utilization. Please also refer to the response to BCUC IR1 4.2 for an explanation of how FBC developed the maximum utilization cap of 54 percent.

8.2 Noting that Dunsky's scenario 2 (Medium Growth) assumes increasing access to at home charging occurring (i.e., 40% of multi-unit buildings have access to charging by 2035) please discuss how FBC has compensated for the potential for at home charging to displace station charging.

Response:

FBC has not adjusted its forecasts to account for increasing access to home charging. FBC considers that increasing home charging may displace public DCFC charging in some cases but could also complement public DCFC charging in other cases. For example, home charging tends to be completed with a Level 2 charger. A typical home charging session is 4 to 10 hours. An equivalent charging session at a public DCFC station is typically 30 minutes. FBC believes there will always be a market for fast charging because EV owners will also need to charge their vehicles while away from home.

Furthermore, as Dunsky's analysis has shown, increasing access to home charging would increase EV adoptions, which would in turn increase the likelihood of FBC public DCFC station utilization.

8.3 Please provide a rationale for the forecast of growth scenarios where the 'Medium Scenario' continues to grow equal to or grow than the "Low Scenario" after 2037.

Response:

FBC notes that the proposed energy-based rate is based on a 10-year levelization period up to 2033, as such, the growth rates beyond 2037 would not impact the calculation of the energy-based rate.

The medium growth scenario reflects stronger growth in the early years in comparison to the low growth scenario, and as the market is expected to approach saturation by 2040, growth is then expected to slow down or flatten. In contrast, the low growth scenario reflects weaker growth in the early years and has more room for growth in later years. Thus, the low growth scenario starts to catch up towards the end of the analysis period.

8.4 Please provide the approximate costs for home charging at Level 1 and Level 2 for potential capital costs and energy-based rates at home.

Response:

For Level 1 charging at home, there would generally be no capital cost for installation as the charging is done with typical 120 V outlets. Level 1 chargers typically cost around $200 to $300 each, but most EVs include a Level 1 charger with the purchase of the vehicle.

For Level 2 charging at home, the capital costs for installation would be dependent on various factors, such as whether the parking spot or garage is EV ready or not, whether the charger will be installed in a single family home or in a multi-unit building, the proximity to existing electrical outlets or panels, available capacity of existing electrical service, and whether a networked or non-networked charger is purchased or required. According to one recent media report[1], the overall installation process for a detached home can cost as much as $3,000 to $5,000, while the price of a Level 2 charger itself (if required) can cost between $500 and $1,500. In BC, rebates of up to $350 are available for eligible Level 2 chargers installed in single family homes.

For both Level 1 and Level 2 charging at home, the electricity costs for FBC's customers would be equal to the residential Rate Schedule 1 electric service rate, which is currently at $0.1416 per kWh. However, FBC is unable to determine the total energy-based rate that includes both the electricity costs and the capital costs as this would be dependent on the type of vehicle and battery size.

Besides the cost consideration, it is important to also consider the time required for charging when using a Level 1 or Level 2 charger. For example, a Level 1 charger would typically take 40 to 50

[1] Buying an electric car? What to know about costs, logistics of at-home charging - National | Globalnews.ca.

hours, a Level 2 charger would typically take 4 to 10 hours, and a public DCFC charger would typically take 20 minutes to 1 hour for the same amount of charging.[2]

8.5 Please discuss the emerging technology for batteries that can provide much faster EV charging times and when FBC anticipates that such batteries may become more common.

Response:

EV charging speeds on Level 3 DCFC chargers have been steadily increasing over the past few years. New battery chemistries, improved battery pack thermal management, and better battery management system charging algorithms have all contributed to these improvements. However, speeds can only increase if Level 3 chargers are capable of supplying the full power the vehicle is requesting at any point in time, which in turn requires capable electric supply from the utility.

New battery technologies, such as solid state batteries, promise even faster charging. However, the timeline for these new technologies is uncertain.

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2 https://www.transportation.gov/rural/ev/toolkit/ev-basics/charging-speeds.

9. Reference: Exhibit B-1, page 23

> Currently, FBC is not forecasting construction of any new additional stations between 2024 and 2033, as such FBC did not include capital expenditures or new revenue for new stations in the forecast cost-of-service analysis to 2033. However, FBC will continue to monitor the station utilization and customer demand to determine if additional stations are warranted. As directed by Order G-341-21, if FBC introduces additional EV charging stations that were not originally
>
> identified in the Revised Application, FBC will include the evaluation of these additional stations as part of its Annual Review or revenue requirement proceedings.

9.1 At what usage point would FBC expect to add more stations in order to minimize contention for charging?

<u>Response:</u>

Please refer to the response to BCSEA-VEVA IR1 6.1.

9.2 Are any of FBC's stations currently or expected to approach their capacity in the near term and/or within the next 10 years? Please explain.

<u>Response:</u>

None of FBC's DCFC stations are currently at capacity or expected to approach their capacity in 2024. However, FBC does expect some stations will reach their capacity within the next 10 years. Please refer to the confidential attachment to the response to BCUC IR1 4.1 which shows the forecast of individual stations expected to reach the 54 percent maximum utilization cap within the next 10 years based on the assumed growth. Please also refer to the response to BCSEA-VEVA IR1 6.1 which discusses the factors that FBC will consider before installing additional charging stations.

10. Reference: Exhibit B-1, page 25

Table 3-5: 2024 Forecast of FBC's O&M Expense for EV DCFC Service

O&M		2024 Forecast
Network Management		50.0
Repairs and Maintenance		50.0
Inspection Fees		96.0
FBC Labour Costs		70.0
Subtotal Direct O&M ($000s)	**$**	**266.0**
Third-Party Utilities (50 kW)		40.4
Total ($000s)	**$**	**306.4**
Allocation		
50 kW (34 Stations) + Third-Party Utilities		255.7
100 kW (8 Stations)		50.7
Total ($000s)	**$**	**306.4**

FBC expects the direct O&M costs (i.e., network management, repair & maintenance, inspection fees, and FBC internal labour) will become more stable (except for annual inflation) as all planned stations have been completed and are in-service. As such, for the purpose of forecasting direct O&M expense from 2025 to 2033, FBC used the 2024 direct O&M forecast plus annual inflation of two percent. For discussion of the inflation assumption, please refer to Section 3.2.1.6.

10.1 Please confirm or otherwise explain that 2% is FBC's expected annual inflation rate for all its forecast O&M expenditures.

10.1.1 If 2% for forecast O&M expenditures is not consistent with FBC's forecast inflation in other areas of its business, please explain why not, and why 2% is appropriate in this instance.

Response:

Confirmed. FBC is using an annual inflation of two percent for forecasting O&M expenditures in 2025 and beyond, which is in line with the Bank of Canada inflation target of two percent as well as their current forecast of returning to the target by 2025.[3]

The use of the Bank of Canada's target inflation of two percent and forecasts from the Bank of Canada's Monetary Report is consistent with FBC's other recent applications, most recently FBC's Application for a CPCN for the Fruitvale Substation Project, filed on February 29, 2024, and FBC's Application for a CPCN for the A.S. Mawdsley Terminal Station, which was approved by Order C-6-23 in December of 2023.

[3] Bank of Canada, monetary Policy Report, January 2024: https://www.bankofcanada.ca/2024/01/mpr-2024-01-24/.

11. Reference: Exhibit B-1, page 28

> While FBC expects that the market price will remain close to the $500 per credit level until 2025, FBC does not believe it will remain at this level over the next 10 years, as climate actions undertaken by fuel suppliers will continue to grow in response to various Federal and Provincial policies and/or targets of GHG emission reductions should reduce the demand of the credit market for these suppliers to achieve compliance with the low carbon fuel requirements. As such, FBC assumes the market price of carbon credits will begin to decline starting in 2026. For the purpose of forecasting the carbon credit revenue from 2026 to 2033, FBC assumed a 10 percent annual decline from the $500 per credit level starting in 2026. While the BC carbon credit market is still relatively new and there is no publicly available forecast of market prices, FBC considers the 10 percent annual decline to be a reasonable and conservative assumption. Further, as discussed previously, any variance between forecast and actual carbon credit monetization will be captured in the Flow-through deferral account and will be recovered from or returned to all other FBC customers through rates in the subsequent years.

11.1 How did FBC select 10% as the appropriate annual decline from the $500 per carbon credit?

Response:

While there is no publicly available forecast for the BC carbon market, FBC does not expect the market price will remain at the current high level in the long term. Therefore, FBC has assumed the market price for carbon credits will decline over time. This assumption is based on FBC's expectations that the target for low carbon fuel will become more stringent over time and that industries will continue to convert toward low carbon fuel, which will increase the supply and decrease the demand for carbon credits in the future. The 10 percent annual decline assumed by FBC reduces the market price for carbon credits from $500 per credit in 2026 to approximately $215 per credit by 2033. FBC considers this decline reasonable as it assumes the market price 10 years from now will return to a level similar to 2018 before the rapid increase seen in the market in 2019 as shown in Figure 1 below. Furthermore, as shown in Figure 1 below, the assumed price of $215 per credit by 2033 is similar to the minimum price of approximately $200 per credit seen in 2023.

Figure 1: BC Carbon Credit Market Data Annual Averages and Price Range[4]

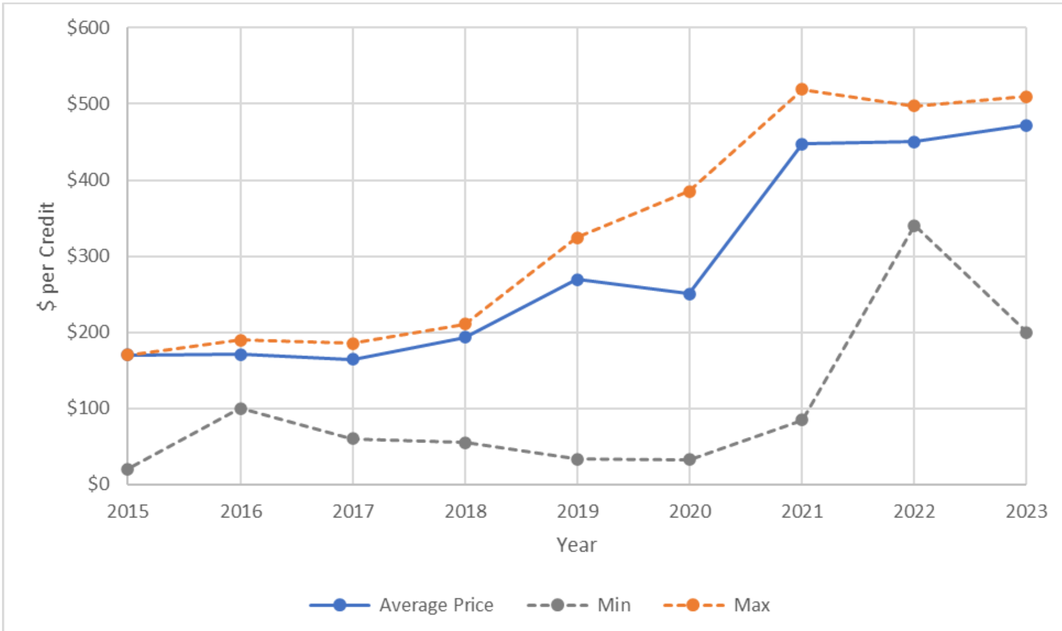

Table 1 below provides a comparison of the levelized energy-based rate using different approaches for forecasting the carbon credits that were explored in the responses to BCUC IR1 6.1 and RCIA IR1 6.2. Out of all the approaches explored in the IRs, FBC's proposed approach of applying a 10 percent annual decline starting in 2026 from a price of $500 per credit produces the most reasonable energy-based rate. The other alternatives either result in the energy-based rate being too high (i.e., $0.53 per kWh as shown in Table 1), which would make FBC's DCFC stations the most expensive fast charging service in FBC's service area, or would lead to the charging service being free or at a very low cost.

Table 1: Comparison of Different Carbon Credit Forecast Scenarios

Carbon Credit Rate Scenario	Reference	Rate ($/kWh)
Priced at $500 but with 10% annual decline starting from 2026	Evidentiary Update	0.39
Priced at $600 per credit penalty for 10 years (new Low Carbon Fuels Act)	BCUC IR1 6.1	0.00
Priced at $200 per credit penalty for 10 years (previous BC RLCFRR)	BCUC IR1 6.1	0.53
Price remain at current level of $500 per credit for 10 years	RCIA IR1 6.2	0.10

11.2 What alternatives did FBC consider, and why does FBC consider 10% to be 'conservative'?

[4] https://www2.gov.bc.ca/gov/content/industry/electricity-alternative-energy/transportation-energies/renewable-low-carbon-fuels/credits-market.

Response:

Please refer to the response to CEC IR1 11.1.

11.3 Please provide FBC's rationale for 10% declines in carbon credits in regard to the mathematical result that effectively forecasts the elimination of the carbon credit markets.

Response:

Please refer to the response to CEC IR1 11.1.

11.4 Please provide FBC's rationale for having variance between forecast and actual carbon credits going into a deferral account to be credited or charged to all other customers as opposed to being matched to the EV charging customers that cause the access to the carbon credits.

Response:

The treatment for carbon credits as flow-through is approved by Order G-341-21. In fact, all costs and revenues from FBC's EV DCFC service are approved for flow-through treatment by Order G-215-21, not just the carbon credits. As such, any variances between actual and forecast EV-related costs and revenues are captured in the Flow-through deferral account and amortized into the rates of FBC's other customers.

Resetting the approved levelized rates for any variances between forecast and actual amounts each year, whether for carbon credits or for other cost-of-service items, would be inefficient and inconsistent with the levelized rate approach to rate-setting. Annual increases or decreases to the charging rates would also lead to confusion for EV charging customers. Furthermore, considering the annual cost of service of FBC's EV DCFC service is relatively small (less than $1 million each year as shown in Table 2-3 of the Application) when compared to FBC's revenue requirement (approximately $457 million in 2024), the impact of any variances in the EV-related revenues and costs to the rates of FBC's other customers is negligible.

12. Reference: Exhibit B-1, page 29

> The proposed energy-based rate of $0.42 per kWh is set to recover, on a forecast present value basis, the cost-of-service of both the 50 kW and 100 kW stations over the 10-year period from 2024 to 2033. The forecast cost of service also includes the actual accumulated deficiency of approximately $15 thousand from 2018 to 2023 as shown in Table 2-3 of Section 2.2.2 above. Please refer to Appendix E-3 which provides the detailed calculation of the proposed energy-based rate in $ per kWh.

12.1 Did FBC conduct any utilization sensitivity analysis? Please discuss and provide any sensitivity analysis conducted or identify where this has been provided in the application.

12.1.1 If no, please explain why not.

12.1.2 If no, please provide utilization sensitivity analysis assuming 10%, 20% and 30% less station utilization than forecast, and indicate what shortfall would need to be recovered from other ratepayers and when this would be required.

Response:

FBC conducted sensitivity analysis by applying the three different Dunsky growth scenarios (i.e., low, medium, and high) where FBC used the growth rates from each scenario to forecast charging minutes at each station, which in turn impacted the forecast utilization. Please refer to the response to CEC IR1 6.2 where FBC compares the different levelized energy-based rates if the utilization of each station is forecast using the low, medium, and high growth scenarios, which would be $0.47 per kWh, $0.39 per kWh (per the Evidentiary Update), and $0.35 per kWh, respectively. FBC also notes that Section 3.3.3 of the Application compares the rate impact to FBC's other customers between the three growth scenarios.

12.1.3 Please explain at what level of shortfall FBC would expect to amend its rates, if any.

Response:

Please refer to the response to RCIA IR1 7.1.

SCOPE: Rate design pertaining to various public EV charger power levels.

13. Reference: Exhibit B-1, pages 30 to 31

3.3.2.1 Cost-Based Recovery

The current BCUC-approved approach for setting FBC's EV DCFC service rates is cost-based (or cost-of-service based) recovery. Although the average levelized annual cost of service for a 50 kW station is less than a 100 kW station, it can be seen from Table 3-6 below that the energy-based rates for both station types are essentially the same, even if they are set separately to recover their individual cost of service on a levelized basis over the 10-year period from 2024 to 2033. This is because the overall consumption in kWh by the 50 kW station (i.e., the amount of electricity that can be dispensed into an EV) is less than the 100 kW station. Thus, under the approach of cost-based recovery, the less expensive 50 kW stations do not translate into lower energy-based rates because the amount of electricity dispensed by the stations is also less in the same amount time compared to the 100 kW stations.

Table 3-6: Individual Levelized Energy-based Rate for 50 kW and 100 kW

Line	Particular	Reference	50 kW	100 kW	Common 50 kW and 100 kW
1	Average Levelized Annual Cost of Service per Station ($000s)	Appendix C, Schedule 4	20.725	33.738	23.204
2	Average Levelilzed Annual Dispensed MWh per Station	Appendix C, Schedule 4	57.295	95.717	64.613
3	**Levelized $/KWh (2024 - 2033) to recover Cost of Service**	**Line 1 / Line 2**	**0.362**	**0.352**	**0.359**
4	Transaction Fee	15%	15%	15%	15%
5	**Levelized $/KWh (2024 - 2033) w/ Transaction Fee (Rounded to Two Decimal Places)**	**Line 3 / (1 - Line 4)**	**0.430**	**0.410**	**0.420**

As such, unless FBC were to deviate from the approved cost-of-service based recovery approach and set the 50 kW EV DCFC stations below cost (whereby the under-recovery would become a rate impact to FBC's other customers), setting individual energy-based rates for the 50 kW and 100 kW stations will not differ materially from the proposed common energy-based rate. Please refer to Schedule 4 of Appendix E-1 and Appendix E-2 for the detailed calculations of the individual energy-based rates for FBC's 50 kW and 100 kW stations, respectively.

3.3.2.2 Utilization Between 50 kW and 100 kW EV DCFC Stations

Based on the actual utilization data of FBC's EV DCFC service from the eight sites where both 50 kW and 100 kW stations are available, the higher time-based rate for the 100 kW stations did not lead to reduced usage or promote more use of the 50 kW stations. Using 2023 as an example, the average utilization of the 100 kW stations at the eight sites where both 50 kW and 100 kW stations are available is almost 20 percent higher than the 50 kW stations at the same site[30], even considering that the current time-based rate for the 100 kW stations is $0.54 per minute compared to the 50 kW stations at $0.26 per minute.

FBC's utilization information demonstrates that the price differential did not help to promote more utilization of the lower power level stations. EV charging customers are choosing the higher-powered EV DCFC stations for reasons other than price, such as the duration of charging time over the price differential, and it is likely that the 50 kW stations are typically used at times when the 100 kW stations are occupied, or the EV is limited by the charging speed depending on the brand/model of the vehicle. As such, FBC believes a common energy-based rate for both the 50 kW and 100 kW stations is reasonable and avoids under-recovering of costs as discussed in Section 3.3.2.1 above.

13.1 Please discuss whether or not charging a 'premium' for the 100kW charging, while still charging cost-recovery for 50kW charging, could potentially provide valuable resources to fund future EV charging equipment or reduce risk from lower than expected demand.

Response:

FBC currently does not have plans to charge a premium for the 100 kW stations. FBC considers the proposed common rates for both 50 kW and 100 kW station represent a fair and reasonable rate structure for all EV drivers, regardless of the charging power capacity of their EV.

Charging a premium for the 100 kW stations may not increase revenue as this IR presumes. A higher premium rate for the 100 kW stations might cause EV owners to choose alternative and less expensive fast charging options, increasing risk of having lower-than-expected demand at FBC's 100 kW stations.

This is particularly the case for EV's with lower charging rates. As demonstrated in the response to BCUC IR1 2.1, EVs with lower charging rates are unable to take advantage of the higher charging speed of the 100 kW stations and would pay more to charge if there was a premium associated with these stations.

FBC also does not believe there is a need to charge customers a premium to fund future EV charging equipment. As discussed in Section 4.2 of the Application, if new stations are needed, FBC will include a request for the new stations as part of its annual review or revenue requirement proceedings. Such requests would include an evaluation of whether the station rate at that time is sufficient to cover the costs of the new stations or if recalculation of the station rate is needed. This allows EV charging customers to pay for the cost of the new station through the EV charging rates at the time that new stations are needed, which is a more appropriate approach and more aligned with the principle of cost causation, compared to pre-collecting the funds now.

13.2 Please discuss whether or not charging a premium for remote charging station convenience could be applicable to pay for low utilization EV charging stations, that nevertheless provide convenience regarding distance travel anxiety.

Response:

FBC does not believe stations located in remote or rural locations should charge a premium. Charging a premium would be inconsistent with the principle of postage stamp rate-making that is inherent in FBC's electricity rates across its service territory. Further, charging a premium in these locations would serve as a disincentive to EV adoption and travel throughout FBC's service territory, which is contrary to provincial policy seeking to promote the adoption of EVs.

SCOPE: Timing, implementation, and customer impact transitioning from time-based rates to energy-based rates.

14. Reference: Exhibit B-1, pages 32 and 33

FBC considers the low growth and high growth scenarios from the Dunsky analysis to be the lower and upper bounds of forecast EV sales in FBC's service area. Table 3-7 below provides a rate impact sensitivity analysis for FBC's other customers if the low or high growth scenarios materialize instead of the medium growth scenario. The rate impact to FBC's other customers due to the varying station utilization scenarios is minor, with the bill impact for an average residential customer ranging from a charge of $0.28 per year to a credit of $0.33 per year.

Table 3-7: Individual Levelized Energy-based Rate for 50 kW and 100 kW

$000s	Low Growth Scenario	Medium Growth Scenario (As proposed)	High Growth Scenario
PV of Deficit / (Surplus) - 10 years	571	-	(669)
Levelized Deficit / (Surplus) per year	78	-	(91)
Levelized Rate Impact - when compare to 2024 Approved (%)	0.02%	0.00%	-0.02%
Avg. Residential Bill Impact ($ per year)	0.28	-	(0.33)

14.1 Please provide the expected average annual rate impact for commercial customers.

Response:

Please see Table 1 below which shows the bill impact for an average commercial customer[5] from the low growth scenario and the high growth scenario (when compared to the proposed medium growth scenario). The bill impact ranges from a charge of $1.31 per year to a credit of $1.37 per year.

Table 1: Estimated Bill Impact to Average Commercial Customer for the Low Growth and High Growth Scenarios when compared to the Proposed Medium Growth Scenario

	Low Growth Scenario	Medium Growth Scenario (As proposed)	High Growth Scenario
Avg. Commercial Bill Impact ($ per year)	$ 1.31	$ -	$ (1.37)

[5] From the FBC Annual Review for 2024 Rates – Evidentiary Update October 10, 2023, the average commercial customer uses approximately 56,876 kWh per year.

14.2 Please conduct a sensitivity analysis assuming the medium growth scenario with increasing levels of home charging displacing FBC station charging. Please use FBC's best estimates to make assumptions regarding the proportion of EV home charging available and used.

Response:

The utilization sensitivity analysis conducted through the Dunsky low, medium, and high growth scenarios sufficiently demonstrates that the impact of lower EV charging demand on FBC's other customers (e.g., from home charging) would be small. Please also refer to the response to CEC IR1 6.2 which shows that the 10-year levelized energy-based rate could range from $0.47 per kWh to $0.35 per kWh between the three growth scenarios that are impacting station utilization.

Please also refer to the response to CEC IR1 8.2 where FBC explains that EV customers will continue to need to charge while away from home and increased availability of home charging will encourage EV adoption which will, in turn, increase use of FBC's EV charging stations.

SCOPE: Rate and rate design of idling charge.

15. Reference: Exhibit B-1, page 14 and 15

> FBC has proposed an Idling Charge of $0.40 per minute which is comparable to most other service providers' Idling Charges, with the approach of including a grace period (i.e., if the vehicle is moved after 5 or 10 minutes after the end of charging) being generally consistent with other service providers, including Tesla.
>
> FBC also notes that Tesla has implemented congestion fees at certain superchargers in the United States which replace the Idling Charges which are currently active in BC and shown in Table 2-6. The congestion charge is $1.00 per minute and applies if the supercharger is fully occupied and if the vehicle's battery level is at or above 90 percent. Tesla has not announced a congestion charge for Canada at the time of filing this Application.[31] FBC notes that its understanding from FLO is that their system is not able to implement a similar congestion charge at this time.

Table 2-6: DCFC Service Provider Idling Charge Comparison in British Columbia

Service Provider	Idling Charge ($CAD)
FBC (Proposed)	$0.40 / minute (5 minutes after end of charge)
BC Hydro (Proposed)	$0.40 / minute (5 minutes after end of charge)
Tesla	$0.50 to 1.00 / minute (Waived if moved within 5 minutes. $0.50/min applied if station is 50% occupied or more; $1.00/min if station is 100% occupied)
Electric Canada	$0.40 / minute (10 minutes after end of charge)

15.1 Why did FBC select $0.40/ minute as the appropriate rate for an idling charge? Please provide any supporting cost analysis that FBC may have conducted.

<u>Response:</u>

FBC chose to align its Idling Charge with other charging service providers in BC, including BC Hydro and Electrify Canada. FBC did not undertake further cost analysis beyond the jurisdictional review.

15.2 Why did FBC select 5 minutes as the appropriate grace period for the idling charge?

<u>Response:</u>

FBC chose to align its grace period with other charging service providers in BC, including BC Hydro and Tesla.

15.3 Please explain if idling charges typically have any kind of cap or other measure to mitigate for unforeseen concerns, such as vehicles being impaired.

15.3.1 Noting that FBC is awaiting the ability for FLO to enable an idling charge, does FBC expect it will also have the capability to adjust their idling rates based on station occupancy?

15.3.2 If yes, did FBC consider including such a condition, and why was it rejected?

15.3.3 If yes, would FBC be amenable to conditioning its rates based on station occupancy (either now or in the future), and please explain why or why not.

15.3.4 If no, please explain why not, and when, if ever, does FBC expect that such conditioning functionality would be available.

Response:

FBC is unaware of Idling Charges implemented by other service providers that have a cap, and is not planning to implement a cap at this time. FBC would resolve unique circumstances, such as vehicles being impaired, on a case-by-case basis if a customer brought them forward.

FBC might consider applying the Idling Charge based on station occupancy in the future; however, this functionality is not expected to be available from FLO in the near future and therefore will not be available to implement when FBC introduces the Idling Charge (if approved by the BCUC). FBC might consider such an option if this functionality is developed and made available by FLO in the future.

SCOPE: Establishment of the RS 96 Energy-Based Rate Application Cost deferral account and items to be recorded in the account.

16. Reference: Exhibit B-1, page 23

> The current RS 96 rates are set on a levelized basis and are designed to fully recover the cost of service of the 50 kW and 100 kW stations on a forecast basis over the evaluation period. However, as discussed in Section 2.2.1, the actual EV station usage has been less than expected between late 2020 and 2022 primarily due to the COVID-19 pandemic, which led to travel restrictions throughout the Province as well as a lack of EV vehicles being delivered. These circumstances were not factored into the original forecasts in the Revised Application, and it would not be reasonable for EV charging customers to pay for higher rates due to these unusual circumstances, which is consistent with the BCUC's determination regarding the recovery of FBC's COVID-19 Customer Recovery Fund Deferral Account:[40]
>
> > The deferral account should be recovered from all customers because the impacts of COVID-19 were felt across the economy and in principle, should not be constrained to individual rate classes.
>
> As such, FBC considers that it is reasonable to expect that the current RS 96 rates for both 50 kW and 100 kW stations will recover less than 100 percent of the forecast cost of service over the expected life of the assets from 2018 to 2032.
>
> **Table 3-6: Financial Assessment of RS 96 with Updated Costs and Revenues Forecast**

($000s)	50 kW	100 kW	TOTAL
PV of Revenue Requirement (2018-2032)	3,213	1,239	4,452
PV of RS 96 Revenue (Exisitng Rates)	2,633	907	3,540
PV of Deficiency/(Surplus)	**581**	**331**	**912**
% Recovery	**82%**	**73%**	**80%**
Levelized Rate Impact (15 yrs)	**0.01%**	**0.01%**	**0.02%**

> The levelized rate impact to FBC customers due to this under recovery is approximately 0.02 percent over the 15-year analysis period when compared to the forecast 2023 revenue requirement.[41] For an average residential customer, this levelized rate impact over 15 years is equivalent to an annual bill impact of 26 cents per year over the 15-year analysis period.

16.1 Please provide the expected annual rate impact for commercial customers due to the COVID-19 impacts as discussed above.

Response:

The rate impact to commercial customers due to the COVID-19 pandemic is not relevant to the proposed Application to set energy-based rates for FBC's EV DCFC service. For clarity, the reference to the COVID-19 Customer Recovery Fund Deferral Account in the preamble above is meant to highlight that the deficiency resulting from the COVID-19 pandemic is to be recovered from all customers, not just the customers who contributed to the deficiency. Thus, the recovery of the COVID-19 Customer Recovery Fund Deferral Account is not related to the establishment of the proposed RS 96 Energy-based Rate Application Cost deferral account.

Please refer to the responses to BCOAPO IR1 3.1 and 3.2 for a discussion of the proposed RS 96 Energy-Based Rate Application Cost deferral account.