AGENDA of the **REGULAR MEETING**
of the Board of Education
Rocky Mountain School District No. 6

Rocky Mountain School District No. 6 resides in the traditional unceded territory of the Ktunaxa and Secwépmec Nations. We honour the cultures, languages, and First Nations people of these territories.

Location: Video Conference Meeting
Kimberley, Golden, Invermere District Offices
Date: January 9, 2024
Time: 7:00 p.m.

1. CALL TO ORDER

2. ACKNOWLEDGEMENT OF TERRITORY

3. APPROVAL OF AGENDA

4. APPROVAL OF THE MINUTES OF PRIOR MEETINGS

4.1 Regular Board meeting of December 12, 2023
4.2 Synopsis of in-camera meeting of December 12, 2023 (Alan Rice)

5. PRESENTATIONS/DELEGATIONS

6. MATTERS ARISING FROM THE MINUTES

7. STRATEGIC AND POLICY ISSUES

7.1.1 Policies Under Review feedback NIL
7.1.2 Third Reading NIL
7.1.3 Second Reading (Steve Wyer)*
Policy 4400, Non-certified Teachers On-call
District Practice 4400, Non-certified Teachers On-call
7.1.4 First Reading NIL

8. OPERATIONAL ISSUES

8.1 J. Alfred Laird Elementary School climbing wall (Alan Rice)*

9. REPORTS

9.1 EV fleet ready project (Al Ure)*
9.2 Columbia valley situation table (Sharon Collin)*
9.3 BC School Trustees Association (Jane Thurgood Sagal)
9.4 BC School Trustees Association, Kootenay Boundary Branch (Rhonda Smith)
9.5 BC Public Schools Employers Association (Scott King)

10. INFORMATION ITEMS

10.1 Correspondence NIL
10.2 January and February 2024 calendar*

11. FORTHCOMING EVENTS

2024.01.25-26 BCPSEA AGM, Virtual
2024.01.30 Policy Committee, Virtual, 4:30 p.m.
2024.01.31 Field Trip Committee, Virtual, 4:30 p.m.
2024.02.06 Labour Relations Committee meeting, Virtual, 12:30 p.m.
2024.02.13 Board of Education Meeting, Virtual

- In-Camera, 6:00 p.m.
- Regular Meeting, 7:00 p.m.

12. QUESTIONS FROM THE PUBLIC

13. ADJOURNMENT

* attachment

POLICY 4400

NON-CERTIFIED TEACHERS-ON-CALL

POLICY:

In order to provide a continuous, well-directed educational program for students, the Board of Education (Board) may elect to employ non-certified teachers as per language in B22. 1 and 2 of the collective agreement between School District no. 6 (Rocky Mountain) and the Rocky Mountain Teachers' Association. T~~t~~he Board ~~of Education "Board"~~ approves the hiring of the best available non-certified teachers-on-call in the absence of the regular classroom teacher or a certified teacher-on-call.

Rocky Mountain School District #6

DISTRICT PRACTICE 4400

NON-CERTIFIED TEACHERS-ON-CALL

DISTRICT PRACTICE:

~~1.~~ The hiring and deployment of non-certified teachers-on-call within a particular school is a management responsibility and shall be done in accordance with the local collective agreement, article B.22 subsections 1 and 2.

~~3.~~1. Non-certified teachers-on-call shall be paid a daily rate based on the lowest step of the current salary grid in the collective agreement between School District No. 6 (Rocky Mountain) and the Rocky Mountain Teachers' Association, calculated by dividing the salary on the lowest step of the teacher's salary grid by the number of teaching days in the current instructional year. Vacation pay will be added to each teaching day according to the British Columbia Employment Standards Act. ~~which will include four percent (4%) vacation pay. The daily rate is based on 60% of category 5, lowest step in the SD6-RMTA collective agreement.~~

2. Non-certified teachers-on-call are expected to exercise good judgement, conduct themselves in a professional manner, in accordance with Board policies: observing confidentiality in matters concerning students and the school.

~~4.~~3. Hiring of teachers on letters of permission shall involve:~~,~~ an~~d~~ application process, an assessment of qualification, and an assessment of suitability in an interview setting.

PUBLIC BOARD MEETING

DATE: January 9, 2024

TO: Board of Trustees

FROM: Al Rice, Secretary Treasurer

SUBJECT: Climbing Wall - JALES

ORIGINATOR: Al Rice, Secretary Treasurer; Al Ure, Director of Operations

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ISSUE

That the climbing was at J. Alfred Laird Elementary School ("JALES") has not been available for use to the public since community use was halted during COVID.

BACKGROUND

The climbing wall has historically been available for use by the District as well as general members of the public. Herb Weller is a certified instructor and has provided his services to the District during instruction and after school clubs. He has also organized events for the public (i.e., birthday parties, drop-in sessions) charging a nominal fee for this service. Mr. Weller has put countless hours of his personal time and money into maintaining the climbing wall and equipment as well as growing the sport within the community.

The District's liability insurance provides coverage for school sanctioned events, which includes clubs, sports or other activities outside of regular school hours. The District requires proof of insurance for non-school sanctioned events for use by employees, other youth groups, community/non-profit groups or commercial users (District Practice 6000, 2.1). The majority of school use is for sporting activities or meetings.

CURRENT SITUATION

There have been a number of concerned community members regarding the inability to access the climbing wall for community use.

The Secretary Treasurer has worked with Herb Weller, Jack Caldbick and Julie Beauchemin to determine alternatives options to allow public access to the climbing wall. The Secretary Treasurer also contacted Saanich School District as they have a similar situation as the District.

The Boulders Climbing Gym Society ("Boulders") was created nearly 20 years ago to operate the climbing facility which was located in Stelly's Secondary School. Boulders has its own board of directors and maintains the wall, equipment, as well as insurance for non-school sanctioned climbing activities.

The arrangement appears to be a workable solution for the District as it should allow a newly created society to enter into a license of occupation with the District and obtain insurance for public climbing access. The initial board of directors are anticipated to be Herb Weller, Jack Caldbick and Julie Beauchemin.

FINANCIAL IMPLICATIONS

Management is proposing that the District will cover the cost of the inspection of the wall annually. All other costs such as wall maintenance, equipment, training and insurance will be covered by the new society. The Districts' insurance will also be in place for all school sanctioned climbing activities.

The District could also consider a small donation to the society for its use during school hours for District students. This could assist with the wear and tear of the equipment during school use.

RECOMMENDATIONS

The Secretary Treasurer believes this option is a viable solution to allow public access to continue. The main concern previously was insurance for non-sanctioned climbing activities. The District has a long history working with Herb Weller and the Invermere climbing community with no climbing related incidents. The license of occupation would also detail the requirements of the society to:

- maintain the wall (daily, monthly and annual reports to be provided to the school for safekeeping)
- ensure instructors are appropriately trained and qualified
- ensure waiver of liability forms are received from participants
- ensure participants have completed orientation
- provide annual insurance certificate
- allow access to all society books and records if requested by the District

POSSIBLE MOTION

That the Board of Education direct the Secretary Treasurer to enter into an agreement to allow public access to the climbing wall located at J. Alfred Laird Elementary School that covers the risks related to non-school sanctioned climbing activities.

PUBLIC BOARD MEETING

DATE: January 9, 2024

TO: Board of Trustees

FROM: Al Ure, Director of Operations

SUBJECT: EV Fleet Ready Project Update

ORIGINATOR: Lisa Clifton

REFERENCE: Addendum 1 – Go Electric Fleet Program (CleanBC)

Addendum 2 – Prism Engineering EV Fleet Ready Report

ISSUE

Using 2007 as the baseline, B.C. is committed to reducing GHG emissions by: 16 percent by 2025. 40 percent by 2030. 60 percent by 2040.

BACKGROUND

In support of the provincial target, the senior management team at SD6 identified carbon reduction as an annual initiative; specifically, "the goal for 2023-24 is to complete an assessment of the current carbon footprint within the District. This information will provide us with a roadmap on where we can focus our efforts to reduce the impact we have on the environment. The goal for 2024-25 would be to acquire 2 white fleet electric vehicles and upgrade the charging infrastructure for electric vehicles and busses. The goal for 25-26 would be to double the electric bus fleet to 6 busses."

In response to the mandate to reduce our carbon footprint, the Operations team proactively sought funding through the Clean BC Initiative. We are pleased to announce that our grant application has been approved, marking a significant step towards achieving our sustainability objectives. The grant is contingent on a comprehensive assessment, for which Prism Engineering has been selected as the recommended vendor.

Prism Engineering has submitted initial reports outlining a roadmap for vehicle replacement. This includes a detailed analysis of our current fleet's environmental impact and proposes a strategic plan for the replacement of vehicles with more energy-efficient alternatives. To support these efforts, the Operations team is actively engaged in upgrading the electrical service in Golden and Kimberley, crucial steps to facilitate the transition to electric vehicles.

PUBLIC BOARD MEETING

FINANCIAL IMPLICATIONS

The financial implications of this initiative include the costs associated with the assessment by Prism Engineering, the electrical service upgrades in Golden and Kimberley, the procurement and installation of electric vehicle chargers and the procurement of two replacement vans for Golden and Invermere. While the initial investment is substantial, the long-term benefits include reduced operational costs and a positive impact on our environmental stewardship.

The approved grant from the Clean BC Initiative significantly mitigates the financial burden of these initiatives. The initial EV Fleet ready assessment provided by Prism was a cost of $22,900.00. A significant portion was covered by Clean BC, $13,900.00. The remainder was paid for by the operations team operating fund.

Upon receiving the report from Prism, the operations team then submitted that report to CleanBC to apply for the next step in EV Fleet Ready funding. This next step is the electrical infrastructure upgrade in Kimberley and Golden. To support the chargers required to charge any additional vehicles both locations needed substantial upgrades. We have both projects out for tender at present. Please note that successful applicants from BC PSOs will be reimbursed for 50% of the costs up to a maximum of $80,000. BC PSOs can have separate applications for different sites but can only receive rebates for a maximum of four sites. This means SD6 is eligible for and has been approved for $80,000 in additional funding for both Kimberley and Golden, totaling $160,000 in further funding. The remaining costs for each site have been budgeted to come out of our AFG funding from the ministry for the summer of 2024. These amounts will be known in the coming weeks when the tender closes.

SD6 has also been granted funding for the final phase of the EV fleet ready project which is the design and installation of chargers. This phase is currently being planned.

Lastly, SD6 has been putting money aside for the past few years in local capital for the procurement of new white fleet vehicles. Once we are ready to move forward with installing more chargers, we will begin the procurement of 2 new vans; this is anticipated to take place in the summer of 2024.

PROGRAM GUIDE FOR THE CLEANBC – GO ELECTRIC FLEETS PROGRAM

Funded by the Province of British Columbia

And

Funded by the Government of Canada

CleanBC Go Electric Fleets Program

Program Overview

The CleanBC Go Electric Fleets Program is one of a suite of programs offered under the Province's CleanBC Go Electric Programs. The CleanBC Go Electric Programs are designed to reduce barriers to the adoption of zero-emission vehicles (ZEVs) to realize both their environmental and economic benefits. The programs have been highly successful in starting the transition to a transportation system that is powered by clean energy. Under the Zero-Emission Vehicles Act, the Province has also committed to 10% of new light duty vehicle (LDV) purchases being zero emission by 2025, 30% by 2030 and 100% by 2040. Clean BC Roadmap 2030 has accelerated these commitments to 26% new LDV purchases being zero emission by 2025, 90% by 2030 and 100% by 2035. Funded by the Ministry of Energy, Mines and Low Carbon Innovation (the "Ministry" or EMLI) and administered by Fraser Basin Council Society, the CleanBC Go Electric Fleets Program provides rebates to support public and private fleets transition to ZEVs, and support services for organizations seeking ZEV solutions for their fleet needs.

This document serves as guidance for the Go Electric Fleets Program, and identifies the requirements for administration, implementation, and oversight of the rebate. The document may be periodically updated as needed to clarify Program requirements and improve Program effectiveness

Contents

1. Program Administration

Program Administrator

The Ministry of Energy, Mines and Low Carbon Innovation is responsible for overall CleanBC Go Electric Program design, management, and oversight, including oversight of the Go Electric Fleets Program management. The CleanBC Go Electric Fleets Program (Go Electric Fleets Program) is administered by Fraser Basin Council Society on behalf of the Ministry. In order to meet Program targets, the Ministry reserves the right to modify or cancel any component of the Go Electric Fleets Program at any time without notice. This program modification can include but is not limited to,

- ZEV Information and related training for fleets
- ZEV Fleet Advisors;
- Rebates for fleet assessments;
- Rebates for facility assessments;
- Rebates for electrical work needed to support a ZEV fleet; and
- Rebates for EV charging infrastructure.

The Program will be regularly reviewed and evaluated by EMLI staff. EMLI reserves the right to change or terminate the program at any time without notice.

Program Communications

Detailed program information and documentation, such as application forms, will be hosted on the Plug In BC website at https://pluginbc.ca/go-electric-fleets

Enquiries related to the administration of the Go Electric Fleets Program including, but not limited to, eligibility requirements, and application processing, should be directed to Balakrishnan Venkata, Email: fleets@pluginbc.ca, Tel: 236-877-2886.

Enquiries related to the overall administration of CleanBC Go Electric Programs and zero-emission vehicle policy should be directed to the Ministry at: ZEVPrograms@gov.bc.ca

West Coast Electric Fleets Pledge

The Go Electric Fleets Program will support the work of the West Coast Electric Fleets (WCEF) initiative. The WCEF is an initiative that was launched in 2013 under the Pacific Coast Action Plan on Climate and Energy by the Pacific Coast Collaborative (PCC) jurisdictions: British Columbia, Washington, Oregon, and California. The plan included a commitment to "take actions to expand the use of zero-emission vehicles, aiming for 10 percent of new vehicle purchases in public and private fleets."

To support the initiative, the Pacific Coast Collaboration published the WCEF Pledge[1] (Pledge) that allows public and private sector fleets to officially sign on to the PCC commitment. In order to qualify for financial rebates of the Go Electric Fleets Program, fleets must commit to the

[1] West Coast Electric Fleets, "Join the West Coast Electric Fleets,": http://www.westcoastelectricfleets.com/fleet-pledge/

Express Lane level [2] of the Pledge or higher[3], which commits fleets to at least 10 percent ZEVs for all new fleet procurement and to annually revisit this pledge to consider a higher ZEV procurement goal.

Fleets that sign the Pledge at the *Express Lane* level or higher will have access to ZEV education and training seminars and workshops for both fleet managers and staff. WCEF has also developed an online toolkit which allows fleet managers to analyze current fleet use and composition; calculate and compare costs of incorporating ZEVs into the fleet (including available local rebates); and understand and manage charging infrastructure, policies, and other related issues, in order to help fleets in purchasing ZEVs. The Proponent will assist fleets that sign the Pledge with using the resources available through WCEF and other resources.

While access to the Toolkit and WCEF webinars are available to all fleets, Go Electric Fleets Program funding rebates are restricted to participants in BC. To be eligible for the BC Go Electric Fleets Program, fleets must make the West Coast Electric Vehicle pledge at the Express Lane level, and be a fleet based in British Columbia. Once a fleet has committed to the *Express Lane* level of the Pledge or higher they will join other BC-based fleets and be eligible for financial and technical support. All BC-based fleets who have taken the pledge at the *Express Lane* level or higher will be automatically considered as Go Electric Fleet Program participants.

Public Sector Organizations

Government is committed to reducing Public Sector Fleet emissions by 40% by 2030. To accomplish this target, Public Sector Organizations (PSOs) require the tools and infrastructure to support a fleet. Due to the size and scope of PSO fleets and facilities, $2,000,000 of program funds will be reserved specifically to provide increased financial assistance for PSOs to expand deployment of charging and refueling infrastructure, upgrade electrical infrastructure and enhance organizational knowledge and capacity through the program stream incentives below. Eligible organizations include Health Authorities, School Districts, Colleges and Universities. Government ministries, agencies and Crown Corporations are ineligible.

[2] Express Lane Level: Committing to at least 10% ZEVs for all new fleet vehicle procurement AND annually revisiting this pledge to consider a higher ZEV procurement goal.

[3] Diamond Lane Level: Committing to __% (define commitment level above 10% below) ZEVs for all new fleet vehicle procurement. Please indicate in the space below a year by which you plan to achieve this commitment tier.

2. Zero-Emission Vehicle Fleet Advisor

Description

To support the uptake of ZEVs in BC fleets, the Go Electric Fleets Program will offer ZEV Fleet Advisors. The Fleet Advisor will provide expert support at no cost, in the form of consultation, education and advice. This suite of services provided by the ZEV Fleet Advisor is designed to guide and support fleets through the steps required for fleet procurement of ZEVs, including development of business cases, suitability assessments, installation of infrastructure, electrical assessments of facilities, and completing electrical modifications or service upgrades. The primary role of the Advisor is to provide knowledge on transitioning to ZEV fleets and reduce the institutional and technical challenges associated with the transition.

These services will include the following:

a) Consultation and Installation Support

Those interested in ZEVs for fleets and installing EV charging infrastructure at their facilities can contact a ZEV Fleet Advisor for an initial consultation. During the consultation, the ZEV Fleet Advisor will collect information on the building and site layout, parking space allocation and ownership situation, fleet vehicles, charging wants and needs, etc. The Advisor will help the interested party to initiate the process of transitioning to a ZEV fleet and having EV charging equipment installed at their facility and answer any questions they may have.

Companies that decide to continue with the implementation of ZEV fleets, including charging equipment, will have access to advisory support for proceeding through the different program areas, including:

- Development of business cases;
- Undertaking ZEV suitability assessments;
- Support with applying for hardware rebates;
- Identifying contractors for fleet and facility assessments; and
- Guidance in completing electrical modifications and service upgrades needed for a ZEV fleet.

b) Education and Outreach

The ZEV Fleet Advisor will also be able to provide interested parties with onsite education and hands on learning. This will allow for employers and staff to ask questions and address any concerns they may have, and to learn more about ZEV fleets and charging. This also allows for the Fleet Advisor to provide key decision makers with expert advice and direction in transitioning to ZEVs based on current and future needs.

Eligible onsite learning could include:

- Lobby events;
- Lunch and learn;
- Presentations or webinars at staff meetings; and,
- Presentations or webinars for management and decision makers.

c) Eligible Applicants

ZEV Fleet Advisor services are open to B.C. registered companies.

To be considered eligible under this program, a company must:

- Be located in B.C.;
- Be a B.C. based business with valid operating license; and
- Have corporate fleet vehicles registered in B.C.

d) Eligible Costs

ZEV Fleet Advisor services will be provided free of charge by Fraser Basin Council, under the Go Electric Fleets Program to eligible participants, up to a maximum of forty hours of total ZEV Fleet Advisor time. For services totaling more than forty hours, additional ZEV Fleet Advisor services can be provided at rates defined by the Go Electric Fleets Program.

e) Application Process

To request ZEV Fleet Advisor services please contact:
ZEV Fleets Advisor
236-877-2886
fleets@pluginbc.ca

If the Province changes or terminates the Program, a completed eligible application form received prior to a change or the termination of the Program will be administered in accordance with the Program as it existed on the date of the application.

3. ZEV Training Sessions

B.C. fleets that sign the West Coast Electric Fleet Pledge and become members in the Go Electric Fleets Program, would become eligible for additional training related to vehicle electrification. These would include quarterly webinars and in person meetings. In addition, FBC will host an annual CleanBC Go Electric Fleets symposium open to all fleets. The objective of the sessions will be to assist fleets in meeting their ZEV goals. This training will be designed to increase uptake and effectiveness of the program elements and allow for a networking opportunity to learn and share ideas on the best practices for ZEV adoption.

Additional training topics would include navigating specific tools on the WCEF and Go Electric Fleets websites, such as Total Cost of Ownership (TCO) calculators. In addition, Fraser Basin Council will develop an online fleet procurement analysis tool, which will help fleets to predict the return on investments and choose right-sized vehicles. This tool will include Canada-specific metrics and assumptions and offer group training in addition to optional one-on-one support as follow-up.

The quarterly webinars will also function as a peer mentorship network, where representatives from the Go Electric Fleets Program participating organizations would share successes, challenges and lessons learned.

All fleets (Go Electric Fleets Program participants and non-participants alike) are encouraged to sign up for the WCEF newsletter, to receive notification of upcoming training and informational webinars, and for news and information related to EV adoption in fleets.

Go Electric Fleets Program participants will have the opportunity to access one-on-one guidance on best practices, tools, and new technology developments, with particular focus on life-cycle cost calculators and other beneficial tools. Additionally, Go Electric Fleets Program participants might be chosen as examples for case studies to share lessons learned.

4. Financial Support for Fleet Assessments

Description

To develop a business case to justify transitioning to ZEVs, fleets may need to understand existing fleet usage and the benefits of replacing vehicles with ZEVs, including the total cost of ownership. The Go Electric Fleets Program will offer financial assistance for ZEV Fleet Assessments, including telematics tools that can offer fleets information that can be used in the development of ZEV suitability assessments and business cases.

The Program will provide financial assistance for fleets to develop a ZEV Fleet Assessment that will include a ZEV suitability assessment based on existing fleet usage, a business case for adopting ZEVs that includes infrastructure costing, and a basic plan for the future ZEV adoption based on the assessment. The ZEV Fleet Assessment can be informed by either data from telematics tools or be a simple assessment without telematics. The ZEV Fleet Assessment must include information regarding vehicle suitability to meet operational requirements of the fleet, and a total cost of ownership assessment including operational cost savings and vehicle price premiums. Customers must agree to share the Fleet Assessment with FBC and the Ministry.

For clarity, if Go Electric Fleets Program participants already have ZEVs in their fleet, they may conduct ZEV telematics as a part of there ZEV Fleet Assessment. This allows fleets to track metrics of existing ZEVs to understand in detail the cost of operation, and to help make the business case to increase adoption, and/or shift to better drive and duty cycles.

a) Eligible Applicants

To be considered eligible under this Program, a company must:

- Be a B.C. registered company;
- Be located in B.C.;
- Have fleet vehicles registered in B.C.;
- Sign-on the WCEF Pledge at the *Express Lane* level or higher; and,
- Apply for pre-approval.

The following documentation must be provided at the time of applying for pre-approval:

- Proof of B.C. business license;
- WorkSafe BC number;
- Proof of fleet vehicles registered in B.C.;
- WCEF pledge letter *(Express Lane* level or higher); and
- A quote for the work to be completed.

Once you satisfy the above requirements, FBC will review your application. If approved, FBC will issue an approval letter.

b) Eligible Costs

For assessments using telematics
Successful applicants to this program component will be reimbursed for 50% of the costs to install telematics tools onto fleet vehicles and conduct a fleet ZEV suitability and business case assessment. The maximum rebate per applicant will be capped at $50,000.
Eligible costs include:

- Telematics tools for up to 12 months;
- ZEV suitability assessment using data collected from telematics tools; and,
- Business case analysis using data collected from telematic tools.

For assessments without telematics
Successful applicants to this program component will be reimbursed for 50% of the costs to conduct a simple fleet ZEV suitability and business case assessment. The maximum rebate per applicant will be capped at $3,000.

BC Public Sector Organizations (Crown Corporations and Government ministries are ineligible)
Successful applicants from BC Public Sector Organizations (PSOs) will be reimbursed 75% of costs for both options shown above up to a maximum of $50,000.

Indigenous communities
Successful applicants from Indigenous communities and businesses will be reimbursed 75% of costs for both options shown above with maximum funding remaining the same.

c) Requirements

- The ZEV Fleet Assessment must include an assessment of the existing fleet usage, informed by either telematics used or a simple estimation assessment, a technical and cost-benefit assessment for ZEV adoption in the fleet including infrastructure, and a basic plan for the future ZEV adoption based on the assessment
- For assessments involving telematics tools, telematics tools must be installed on vehicles for a minimum of three months;
- Applicants must agree to share data collected and the assessment report with FBC and the Ministry;
- The ZEV Fleet Assessment must be submitted with final documentation;
- Can be completed by a telematics provider or a third party such as a value-add fleet

management company; and
- Only costs incurred after application approval will be considered eligible.

Once pre-approved for a rebate, applicants will have 60 days to install telematics tools onto vehicles. **Only costs incurred after application approval will be considered eligible.**

d) Fleet Assessment Application Process

- Applicants must apply for pre-approval. The pre-approval application form can be available for downloaded at www.pluginbc.ca/Fleets
- Following the completion of fleet assessment, pre-approved applicants must then submit final documentation to receive the financial rebate.

The following documentation must be provided at the time of applying for the fleet assessment rebate:

- The approval letter issued by FBC under the pre-approval process;
- A ZEV suitability assessment and/or business case report; and
- Proof of payment

If the Province changes or terminates the Program, a completed eligible application form received prior to a change or the termination of the Program will be administered in accordance with the Program as it existed on the date of the application.

5. Financial Support for ZEV Infrastructure Assessment

Description

As fleets transition to ZEVs, facilities may require infrastructure upgrades to support the energy demand of ZEVs. If fleets are seeking to transition to battery electric vehicles (BEV), the Go Electric Fleets Program will provide financial support for customers to undertake an electrical assessment of their facilities to understand the increased strain on the energy load of a facility, and to help plan and prepare for fleet electrification. If fleets are seeking to transition to hydrogen fuel cell vehicles (HFCV), the Go Electric Fleets Program will provide financial support to develop a proposed plan around accessing hydrogen fueling.

a) Eligible Applicants

To be considered eligible under this Program, a company must:

- Be a BC-registered company;
- Be located in B.C;
- Have fleet vehicles registered in B.C.;
- Sign on to the WCEF Pledge at the *Express Lane* level or higher; and,
- Apply for pre-approval.

The following documentation must be provided at the time of applying for pre-approval:

- Proof of B.C. business license;
- WorkSafe BC number;
- Proof of fleet vehicles registered to your organization registered in B.C.; and,
- A quote for the ZEV infrastructure assessment.

Once you satisfy the above requirements, FBC will review your application. If approved, FBC will issue an approval letter.

b) Eligible Costs

Successful applicants to the facility assessment rebate will be reimbursed for 50% of the costs up to a maximum of $5,000. Organizations with multiple facilities may be eligible for additional funding upon approval from the Ministry. Organizations can have separate applications for different sites but can only receive rebates for a maximum of four sites.

Eligible costs include:

- For a BEV fleet, a study offering an analysis of an organization's electrical systems and options to address the increase in electricity demand needed to support fleet electrification; or
- For a HFCV fleet, a study offering an analysis of an organization's hydrogen fueling needs and a plan for access to fueling infrastructure that can meet the fleets hydrogen demands.

Medium-duty and heavy-duty vehicles can be included as a part of the assessment for the fleet to take a holistic view of their potential energy demand.

BC Public Sector Organizations (Crown Corporations and Government ministries are ineligible)
Successful applications from BC PSOs will be reimbursed for 50% of the costs up to a maximum of $10,000. BC PSOs can have separate applications for different sites but can only receive rebates for a maximum of four sites.

Indigenous communities
Successful applicants from Indigenous communities and businesses will be reimbursed for 75% of the costs up to a maximum of $5,000.

c) Requirements for the ZEV Infrastructure Assessment

The BEV infrastructure assessment should evaluate:

- Electrical capacity;
- Required vehicle charging schedules and demand increase;
- Energy management options;
- If electrical modifications of electrical service upgrades are needed;
- Conceptual design of electrical systems including charging infrastructure options;
- Energy bill impacts; and,

- Capital costs.

The HFCV infrastructure assessment should evaluate:

- Fleets hydrogen fueling access plan;
- Estimated quantity of hydrogen needed by the fleet (e.g. kg/day, kg/week)
- Required vehicle refueling schedules;
- Consideration for back-up hydrogen fueling access if fleet is not located near more than one hydrogen fueling station;
- Fueling costs; and
- Capital and operations and maintenance costs if installing hydrogen fueling infrastructure at fleet facility

The assessment must be submitted to the program administrators to receive the rebate.

Once pre-approved for a rebate, applicants will have four (4) months to complete the ZEV Infrastructure Assessment. **Only costs incurred after application approval, and before the end of the four (4) month term, will be considered eligible**

d) Facility Assessment Application Process

- Applicants must apply for pre-approval. The pre-approval application form is available on the Go Electric Fleets website.
- Pre-approved applicants after the completion of facility assessment must apply for a financial rebate.

The following documentation must be provided at the time of applying for financial support:

- The approval letter issued by FBC
- An assessment/evaluation/analysis report of your electrical system
- A plan/layout for the future electrical upgrade based on the assessment
- Proof of payment for the infrastructure assessment

If the Province changes or terminates the Program, a completed eligible application form received prior to a change or the termination of the Program will be administered in accordance with the Program as it existed on the date of the application.

6. Financial Support for Electrical Infrastructure (**electrical work**)

Description

If electrical modification and/or electrical service upgrades are needed to support fleet electrification, the costs associated with such projects can be a barrier to ZEV adoption. To support the facilities of an organization to be ZEV fleet ready, the Go Electric Fleets Program will provide financial support for the electrical work needed to provide enough energy to support a ZEV fleet.

a) Eligible Applicants

This Program component is open to B.C. registered companies.

To be considered eligible under this Program, a company must:

- Be located in B.C;
- Have fleet vehicles registered to your organization registered in B.C.;
- Sign-on the WCEF Pledge at the *Express Lane* level or higher; and,
- Apply for pre-approval.

To be considered eligible under this Program, you must apply for pre-approval and provide the following details:

- Proof of B.C. business license;
- WorkSafe BC number;
- Proof of fleet vehicles registered to your organization in B.C.;
- Attestation that the applicant has the authority to undertake the electrical work at the facility;
- If the facility is a leased location, written permission from property management or owner of the building is required;
- Facility electrical assessment that details the need for the electrical modifications or service upgrades to accommodate a ZEV fleet; and,
- A quote for the work (Facility electrical assessment) to be completed.

Once you satisfy the above requirements, FBC will review your application. If approved, FBC will issue an approval letter.

b) Eligible Costs

This Program component will reimburse the costs of electrical work/service upgrades or modifications at the rate of 33% of total costs to a maximum rebate of $20,000. Organizations can have separate applications for different sites but can only receive rebates for a maximum of four sites.

Eligible costs include:

- Engineering design services;
- New panels and breakers;
- New transformer;
- Wiring and conduit additions; and,
- Upgrades to utility service.

BC Public Sector Organizations (Crown Corporations and Government ministries are ineligible)

Successful applicants from BC PSOs will be reimbursed for 50% of the costs up to a maximum of $80,000. BC PSOs can have separate applications for different sites but can only receive rebates for a maximum of four sites.

Indigenous communities
Successful applicants from Indigenous communities and businesses will be reimbursed for 75% of total costs to a maximum rebate of $25,000.

c) Requirements

- To be eligible, an organization must first undertake an EV Infrastructure Assessment and clearly demonstrate the need for the electrical modifications or the electrical service upgrades to accommodate a ZEV fleet;
- Applicants must agree to share data collected with FBC and the Province; and,
- Applicants must obtain all required permits needed to complete the electrical work.

Once pre-approved for a rebate, applicants will have 90 days to begin the project with costs approved by program administrators. **Only costs incurred after application approval will be considered eligible.**

d) Electrical Infrastructure Application Process

- Applicants must apply for pre-approval. The pre-approval application form is available here
- After completion of electrical infrastructure installation, pre-approved applicants must then apply for the financial rebate.

The following documentation must be provided at the time of applying for the rebate:

- The approval letter issued by FBC
- A proof of completion of electrical work
- Proof of payment: Sales receipt showing items/model, name and address of the purchaser, purchase date and purchase price or any other document that clearly shows the transfer of funds.

If the Province changes or terminates the Program, a completed eligible application form received prior to a change or the termination of the Program will be administered in accordance with the Program as it existed on the date of the application.

7. Charging Infrastructure Rebates

Description

Access to charging infrastructure will be necessary for any fleets choosing to adopt electric vehicles (EVs) such as battery-electric or plug-in hybrid electric vehicles. However, the costs associated with EV charging equipment can be a barrier to adoption. To help organizations address this barrier, the Go Electric Fleets Program will provide financial assistance to customers to design, procure and install charging infrastructure, to be used by the fleet.

Zero-Emission Vehicle Infrastructure Program Funding (ZEVIP)
Funding received through Natural Resources Canada's (NRCAN's) ZEVIP is being added to the program for a limited time. ZEVIP funding commences April 1, 2022, until October 31, 2023, or until funds are exhausted. ZEVIP will be used to top-up rebates offered for the installation of Level 2 and DCFC charging stations.

1. Level 2 charging stations

a) Eligible Applicants

This Program component is open to B.C. registered companies.

To be considered eligible under this Program, a company must:

- Be located in B.C;
- Legal entities validly incorporated or registered in Canada or abroad, including not-for-profit and for-profit organizations installing EV infrastructure in Canada, such as:
    - Electricity or gas utilities
    - Companies
    - Industry associations
    - Research associations
    - Indigenous and community groups
    - Academic institutions
    - Provincial, regional or municipal governments or their departments or Agencies*

  *See below in the Public Sector Organizations section for restrictions placed on BC Crown Corporation and BC Government fleets.
- Have fleet vehicles registered to your organization registered in B.C.;
- Sign on to the WCEF Pledge at the *Express Lane* level or higher; and,
- Apply for pre-approval.

Individuals, Federal Government entities, such as Federal Departments, Federal Crown Corporations or Federal Agencies are ineligible for ZEVIP funding. For a complete list of federal organizations, please consult: https://appointments.gc.ca/lstOrgs.asp?type-typ=1&lang=eng.

b) Eligible Costs

This Program component will reimburse purchase and installation costs of eligible, new, Level 2 charging equipment at the rate of 75% of total costs, up to a maximum of $5,000 per station (for a limited time, starting May 18, 2022; otherwise 50% up to a maximum of $2,000). Rebates will be capped at $50,000 per applicant.

Public Sector Organizations
Health authorities, school districts and universities and colleges are eligible for full program funding. Crown corporation and BC Government fleets are eligible for ZEVIP funding only and therefore can

receive 50% of costs up to a maximum of $3,000 per station. BC Government is considered one entity and therefore total combined rebates of all ministries shall not exceed $50,000.

Indigenous communities
Indigenous communities and businesses will be reimbursed the purchase and installation costs of eligible, new, Level 2 charging equipment at the rate of 100% of total costs, up to a maximum of $6,000 per station (for a limited time, starting May 18, 2022; otherwise 75% up to a maximum of $4,000). Rebates will be capped at $50,000 per site.

Eligible costs include:

- Purchase of the charging station;
- Labour and construction costs for the installation of the charging station, and associated conduit by a licensed electrical contractor;
- Electrical and other related permits;
- Parking and electrical design to accommodate the charging stations;
- EV parking signage; and,
- Cost of network connection fees (maximum of 2 years to be considered towards eligible costs).

Reimbursement of eligible costs will not be issued if work is incomplete. All program requirements must be shown to be fulfilled before the payment will be issued.

Ineligible costs include, but are not limited to:

- Installation of non-EV charging infrastructure;
- Administration such as communication between property management and residents, copy or documentation fees;
- Painting of parking area;
- Taxes paid on charging station, labour, etc.;
- Charging infrastructure already required under regulation, building codes, or other programs;
- Land costs; and,
- Legal costs for Ultimate Recipients.

Once pre-approved for a rebate, applicants will have four (4) months to purchase and install eligible EV charging equipment. **Only costs incurred after application approval, and before the end of the four (4) month term, will be considered eligible.**

c) EV Charging Equipment Requirements

- Be approved for sale and use in Canada (cUL, cETL, CSA, certification);
- Be Level 2 (208 or 240 Volt) station, and feature a SAE J1772 standard plug head or be a proprietary connector type (proprietary connector types will represent a maximum of 75% of all charging connectors installed at the same sub-project site);
- Be purchased, not leased;
- Be a permanent installation;

- Be for a new installation, or expansion of an existing installation (not for the replacement of an existing installation);
- Be networked. A networked level 2 charger must be connected to a central system via standard internet protocol. The communication to the central system can be either an open protocol (such as OCPP, OpenADR, or other) or a proprietary system;
- Stations must remain networked for a minimum of 2 years;
- Be installed by a licensed electrical contractor; and,
- Work performed must be in compliance with all applicable local codes and bylaws.

A list of pre-approved Level 2 EV charging equipment models will be provided on the program website and maintained by the program administrator. This list will be continually updated and maintained but will not be exhaustive. If an applicant purchases a station not on the list, it will be eligible if the station meets the criteria outlined above. Charging equipment manufacturers and/or suppliers may request that their stations be included on the list by contacting the program administrator.

d) Charging Infrastructure Application Process

Applicants must apply for pre-approval. The pre-approval application form is available here

The following documentation must be provided at the time of applying for pre-approval:

- Proof of B.C. business license;
- Proof of fleet vehicles registered to your organization registered in B.C.;
- Attestation that the applicant has the authority to undertake the electrical work at the facility;
- If the facility is a leased location, written permission from property management or owner of the building is required; and
- A quote for the work to be completed (design, procure and install charging infrastructure). This quote must be from a licensed electrician or electrical contractor

After the completion of charging infrastructure installations, pre-approved applicants must then apply for the financial rebate.

The following documentation must be provided at the time of applying for the charging infrastructure rebate:

- A proof of completion of electrical work with photographs;
- Proof of payment: Sales receipt showing items/model, name and address of the purchaser, purchase date and purchase price or any other document that clearly shows the transfer of funds;
- A picture of the installed station(s); and,
- A demonstration that the installed infrastructure is operational (printout from the network operator).

If the Province changes or terminates the Program, a completed eligible application form received prior to a change or the termination of the Program will be administered in accordance with the Program as it existed on the date of the application.

2. Direct current fast chargers (DCFCs)

a) Eligible Applicants

This Program component is open to B.C. registered companies.

To be considered eligible under this Program, a company must:

- Be located in B.C;
- Legal entities validly incorporated or registered in Canada or abroad, including not-for-profit and for-profit organizations installing EV infrastructure in Canada, such as:
  - Electricity or gas utilities
  - Companies
  - Industry associations
  - Research associations
  - Indigenous and community groups
  - Academic institutions
  - Provincial, regional or municipal governments or their departments or Agencies*

  *See below in the Public Sector Organizations section for restrictions placed on BC Crown Corporation and BC Government fleets.
- Have fleet vehicles registered to your organization registered in B.C.;
- Sign-on the WCEF Pledge at the *Express Lane* level or higher; and,
- Apply for pre-approval.

Individuals, Federal Government entities, such as Federal Departments, Federal Crown Corporations or Federal Agencies are ineligible for ZEVIP funding. For a complete list of federal organizations, please consult: https://appointments.gc.ca/lstOrgs.asp?type-typ=1&lang=eng

b) Eligible Costs

Applicants are offered two tiers of rebates for DCFC stations, installed for use by fleet vehicles, as detailed in the table below.

Charger Output	Maximum Rebate Amount	Maximum Rebate Amount for Indigenous Communities and Businesses
DCFC: 20kW to 49kW	75% of project costs up to $20,000 (for a limited time, starting May 18, 2022; otherwise, 50% up to a maximum of $20,000)	90% of costs up to a maximum of $35,000 (for a limited time, starting May 18, 2022; otherwise to a 75% up to a maximum of $35,000)
DCFC: 50kW or higher	75% of project costs up to $75,000 (for a limited time, starting May 18, 2022; otherwise, 50% up to a maximum of $50,000)	90% of costs up to a maximum of $90,000 (for a limited time, starting May 18, 2022; otherwise, 75% up to a maximum of $75,000)

Public Sector Organizations
Health authorities, school districts and universities and colleges are eligible for full program funding. Crown corporation and BC Government fleets are eligible for ZEVIP funding only and therefore can receive 50% of costs up to $15,000 per connector for a DCFC < 50kw or up to $50,000 per connector for a DCFC > 50kW. BC Government is considered one entity and therefore can only receive rebates for one DCFC for all ministries combined.

Eligible costs include:

- Purchase of the charging station;
- Labour and construction costs for the installation of the charging station, and associated conduit by a licensed electrical contractor;
- Electrical and other related permits;
- Parking and electrical design to accommodate the charging stations;

The applicant must provide:

- Charging station invoice and proof of payment;
- Installation invoice and proof of payment;
- Proof of completions with photographs of the completed installations; and,
- A demonstration that the installed infrastructure is operational (printout from the network operator).

Reimbursement of eligible costs will not be issued if work is incomplete. All Program requirements must be shown to be fulfilled before the payment will be issued.

Ineligible Costs include, but are not limited to:

- Installation of non-EV charging infrastructure;
- Administration such as communication between property management and residents, copy or documentation fees;
- Painting of parking area;
- Taxes paid on charging station, labour, etc.;
- Charging infrastructure already required under regulation, building codes, or other programs;
- Land costs; and,
- Legal costs for Ultimate Recipients.

Once pre-approved for a rebate, applicants will have six (6) months to purchase and install eligible EV charging equipment. **Only costs incurred after application approval, and before the end of the six (6) month term, will be considered eligible**

c) EV Charging Equipment Requirements

- Be approved for sale and use in Canada (cUL, cETL, CSA, cQPS certification);
- Be a Direct Current Fast Charger capable of charging rates of ≥20 kW;
- Be dual standard featuring a CHAdeMO and Combined Charging System (CCS) standard plug head or be a propriety connector type (proprietary connector types will represent a maximum of 75% of all charging connectors installed at the same sub-project site);
- Be purchased, not leased;
- Be a permanent installation;
- Be for a new installation, or expansion of an existing installation (not for the replacement of an existing installation);
- Be networked. A networked DCFC must be connected to a central system via standard internet protocol. The communication to the central system can be either an open protocol (such as OCPP, OpenADR, or other) or a proprietary system;Stations must remain networked for a minimum of 2 years;
- Be installed by a licensed electrical contractor; and,
- Work performed must be in compliance with all applicable local codes and bylaws.

d) Charging Infrastructure Application Process

Applicants must apply for pre-approval. The pre-approval application form is available here

The following documentation must be provided at the time of applying for pre-approval:

- Proof of B.C. business license;
- Proof of fleet vehicles registered to your organization registered in B.C.;
- Site Address;
- Attestation that the applicant has the authority to undertake the electrical work at the facility;
- If the facility is a leased location, written permission from property management or owner of the building is required; and,
- A quote for the work to be completed (design, procure and install charging infrastructure). This quote must be from a licensed electrician or electrical contractor

Following completion of charging infrastructure installations, pre-approved applicants must then apply for the financial rebate.

The following documentation must be provided at the time of applying for financial support:

- A proof of completion of electrical work with photographs;
- Proof of payment (Invoices will not be accepted);
- Picture of installed station(s); and,
- Proof of operation (a screen shot from the back-end network operating system that is connect to network).

If the Province changes or terminates the Program, a completed eligible application form received prior to a change or the termination of the Program will be administered in accordance with the Program as it existed on the date of the application.

Rocky Mountain School District EV Fleet Ready Plan

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Sites Assessed: Invermere Operations Building at 1302 Industrial Road No. 1, Athalmer, BC.
Kimberley Operations Building at 8676 Kimberley Highway, Kimberley, BC.
Golden Operations Building at 812 - 14 Street South, Golden, BC.

Project No. 2022486 Date: February 28, 2023 Version: Draft

Limits of Liability

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KEY TERMS AND ACRONYMS

Acronym/ Key Term	Definitions / Descriptions
Vehicle Categories & Key Terms	
White fleet	The district's fleet of service and administrative vehicles. Buses are excluded from this category
SUV	Sport utility vehicle
Van	Includes cargo and minivans
Light-duty trucks	Includes classes 1 and 2 trucks with a GVWR less than 4,535 kilograms
Medium-duty trucks	Includes…
GVWR	Gross Vehicle Weight Rating; This refers to the maximum weight a vehicle is designed to carry including the net weight of the vehicle with accessories, plus the weight of passengers, fuels, and cargo.[1]
Vehicle Fuel Types	
ICE Vehicle	Internal Combustion Engine Vehicle – a vehicle that uses only gasoline or diesel.
EV	Electric Vehicle (AKA Battery Electric Vehicle) – a 100% electric vehicle that never uses gasoline or diesel and must be plugged in to recharge its battery.
PHEV	Plug-in Hybrid Electric Vehicle – a vehicle that can operate on either electricity or fossil fuel and can be plugged in to recharge its EV battery
Traditional hybrid vehicle	A vehicle that uses a small battery to reduce fuel consumption but uses gasoline or diesel as its primary fuel source. These vehicles cannot be plugged in to recharge. (not included in this analysis)

[1] https://www.cvse.ca/vehicle_inspections/PDF/080530_Rec_Vehicle_GVWR_brake_DL.pdf

1. INTRODUCTION

The Rocky Mountain School District (the district) is interested in electrifying a portion of its 35 white fleet (the fleet) vehicles to help meet its climate action targets and align with best practices for school district fleet procurement.

The district commissioned Prism Engineering Limited (Prism) to assess the district's current fleet, identify fleet electrification options and develop an EV Read Fleet Plan that aligns with the parameters of the CleanBC Go Electric Fleets Program. This plan can be used to help guide future vehicle purchasing decisions and facilitate strategic electric vehicle selection and fleet decarbonization efforts.

The results demonstrate that Rocky Mountain School District has the potential to electrify 72% of its fleet with currently available electric vehicle options, which are eligible for government incentives. The transition to EV's will have an impact on both the district's capital and operating costs. The results demonstrate that fleet costs will decrease in the long-term and that the district's GHG emissions begin to drop immediately if Rocky Mountain School District pursues the recommendations outlined in this EV Ready Fleet Plan.

This report outlines the project methodology, provides an overview of the district's current fleet baseline and summarizes the available electric vehicle options. This is followed by a section that summarizes the fleet modelling results under two scenarios and a section that outlines the results of the EV charging infrastructure assessment and the recommended EV charging strategy. The report concludes with a set of recommendations for Rocky Mountain School District's EV Ready Fleet Plan and Charging Strategy.

Exclusions:

This EV Ready Fleet Plan pertains only to the district's white fleet. The district's buses were excluded from this analysis and plan.

2. PROJECT METHODOLOGY

The work required to prepare this EV Ready Fleet Plan was broken in four stages that included:

- establishing a fleet baseline
- completing an opportunities analysis
- modeling two fleet electrification scenarios
- developing an EV charging infrastructure strategy to support fleet the chosen electrification modelling scenario.

The methodology for each stage is outlined below.

Fleet Baseline

To complete the fleet baselines, Prism assessed the current fleet to determine if electrification is a feasible option, identified vehicles that are good candidates for electrification and quantified current operating and lifecycle costs. At this stage of the analysis Prism completed the following tasks:

- Collected and analyzed historical fleet data provided by the district such as make, model, age, use case, estimated daily maximum driving distance, annual fuel costs etc.
- Modeled the current fleet profile to establish baseline operating costs, life cycle costs, GHG emissions and vehicle use cases.

Opportunities Analysis

Prism then completed an opportunities analysis to identify electric vehicles that could potentially replace the current fleet vehicles that are good candidates for electrification. Prism conducted market research to identify EV's that are available for purchase in BC (both current and known forthcoming models) and are eligible for provincial or federal purchase incentives. Prism then assessed each of the district's fleet vehicles to determine if there is a feasible electric vehicle alternative currently available and worked collaboratively with the district to select their preferred electric vehicle replacement option where one exists.

See Appendix A for a list of the assumptions used to inform the opportunities analysis.

Fleet Electrification Modelling

Prism used the results of the baseline assessment and opportunities analysis to model two future scenarios.

- Scenario 1:" ICE to ICE" scenario represents the "business as usual" scenario and assumes that no EV's will be purchased and all current ICE vehicles will be replaced with an equivalent ICE vehicle upon renewal.
- Scenario 2: "EV" scenario assumes that all vehicles which can be electrified (including vans, SUV's, and light-duty trucks) will be replaced with an equivalent EV upon renewal and that any vehicles that cannot be electrified with currently available EV technologies (including medium-duty trucks) will be replaced with an equivalent ICE vehicle upon renewal.

Each scenario includes estimates of annual operating costs (including fuel/energy, maintenance, insurance and carbon offsets), annual and lifetime GHG emissions, and lifecycle costs for all vehicles. This information is used to model a ten-year fleet vehicle replacement roadmap for each scenario that shows the annual capital cost, operating cost and GHG emissions impacts of either proceeding with the "business as usual" approach or transitioning to electric vehicles based on the district's planned vehicle replacement schedule.

See Appendix A for a list of the assumptions and inputs used to inform the fleet electrification modelling.

EV Charging Infrastructure Strategy Development

Prism developed an EV charging infrastructure strategy by completing the following steps:

1. Coordinated with Falcon Engineering who conducted electrical infrastructure assessments at the following locations
   a) Golden Operations Building – 812 14 St South, Golden, BC
   b) Invermere Operations Building – 1302 Industrial Road No. 1, Athalmer, BC
   c) Kimberley Operations Building – 8676 Kimberley Highway, Kimberley, BC
2. Aligned fleet electrification modelling projections with the electrical infrastructure assessment findings.
3. Developed an EV charging strategy that will provide sufficient charging capacity for all the planned EV purchases included in the fleet electrification modelling EV scenario.
4. Generated Class 4 cost estimates (-30% to +50%) for charging and electrical infrastructure upgrades that were then incorporated into the fleet electrification modelling.

3. FLEET BASELINE

This section provides an overview of the district's current fleet composition and outlines the fleet's current impact on the district's greenhouse gas emissions.

3.1 Current Fleet Make-up

As of Nov 2022, the District's fleet was comprised of 32 vehicles made up of primarily gas fueled cargo vans, sports utility vehicles (SUV's) and pick-up trucks. These vehicles are spread across three homebase locations in BC: Golden, Invermere and Kimberly. Table 1 and Figure 1 provide a breakdown of the fleet by vehicle category and homebase location.

Table 1: District Fleet make-up

Vehicle Category	Examples	Vehicle Incentive Category	Vehicle Count
Sport Utility Vehicle (SUV) or Van (Light-duty vehicles)	Blazer, Grand Caravan, Cargo Van	Light-duty	22
Light Duty Truck (LDT)	F-150, F250, Silverado 1500, 2500	Light-duty	5
Medium Duty Truck (MDT)	F-350, F450	Heavy-duty	5
			32

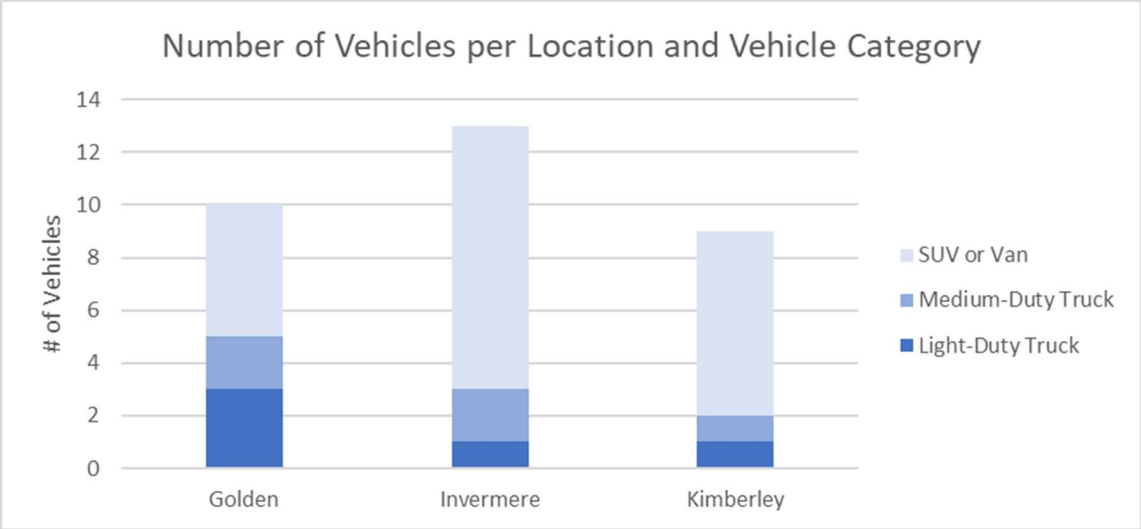

Figure 1. Fleet breakdown by homebase location and vehicle category

Figure 2 below shows the vintage profile of the current fleet. Rocky Mountain School District generally replaces their vehicles when they reach between 15-20 years of service. Currently approximately 50% of the district's fleet fits within this age range, indicating that there are numerous opportunities for vehicle replacement in the near term.

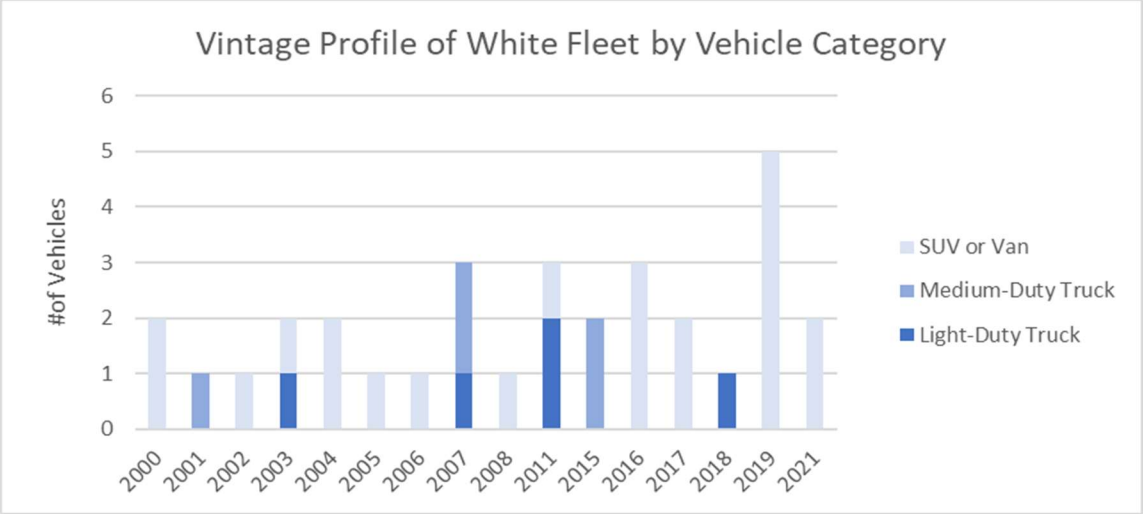

Figure 2. Vintage profile of fleet vehicles by category

The district's planned replacement schedule, seen in Figure 3 below, shows that in the next three years the Invermere fleet has the greatest potential for fleet electrification with four scheduled vehicle replacements, followed by Golden with three scheduled replacements, and Kimberley with one scheduled replacement. Overall, the vehicle category with the greatest potential for electrification in the next 3 years is SUV's or vans (in this case cargo vans), followed by light-duty trucks.

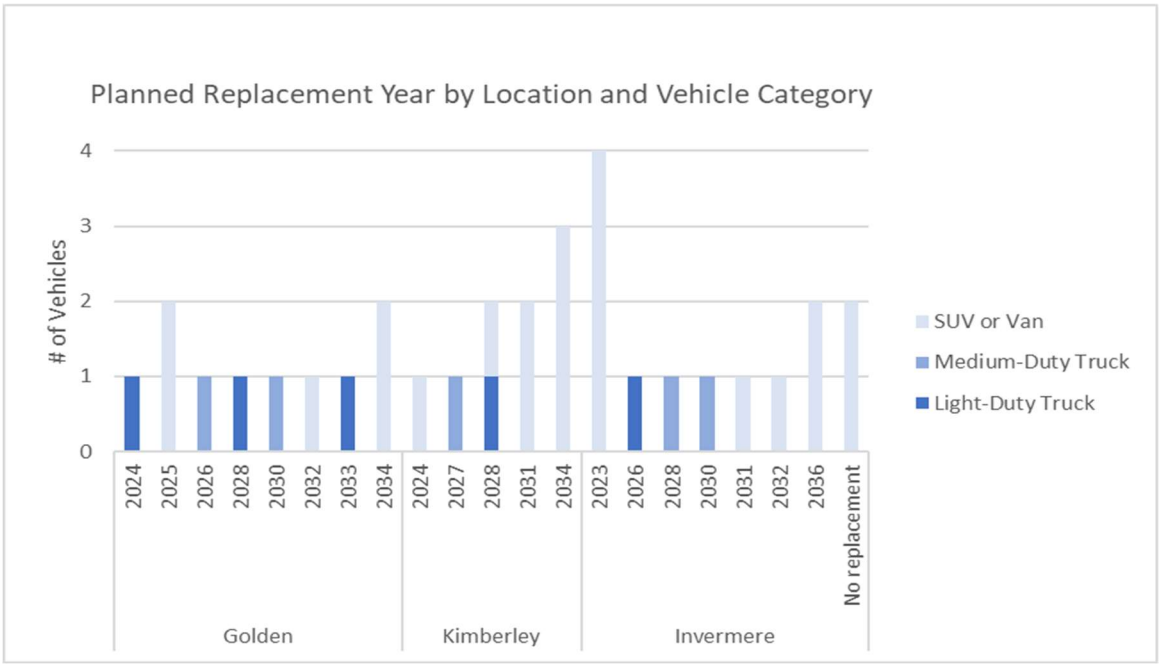

Figure 3. Planned replacement schedule from 2023 – 2036 by year, location and vehicle category

When assessing the viability of fleet electrification, it is also important to consider the maximum daily driving distance requirements for the district's fleet vehicles compared to the current driving range potential of available EV's. Figure 4 shows the maximum daily driving distances required for the district's fleet by location and vehicle category. Almost all vehicles have maximum daily driving distance requirements of less than 100kms per day, which makes them excellent candidates for electrification. Two vehicles (small light-duty vans used by the information technology department) have maximum daily driving distance requirements of up to 400kms/day, therefore EV replacement alternatives for these two vehicles were carefully selected to ensure they meet this department's needs.

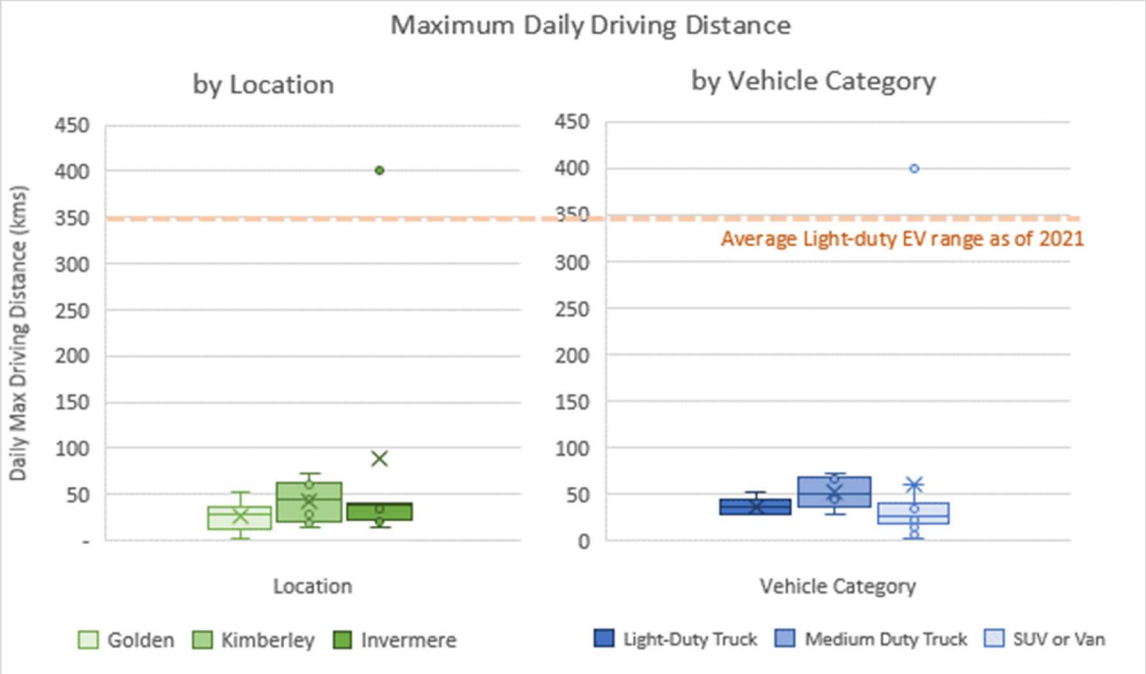

Figure 4. Maximum daily driving distance by location and vehicle category

3.2 Baseline Greenhouse Gas Emissions

Figure 5 outlines the annual greenhouse gas emissions from the district's current fleet vehicles. SUV's and Vans are largest contributors to the district's fleet emissions, accounting for 68% of the district's fleet emissions and making-up 70% of the total fleet size. The second highest emitting vehicle category is medium-duty trucks, which account for 25% of emissions and represent 15% of the fleet size. This is followed by light-duty trucks, which account for 7% of emissions and represent 15% of the fleet size.

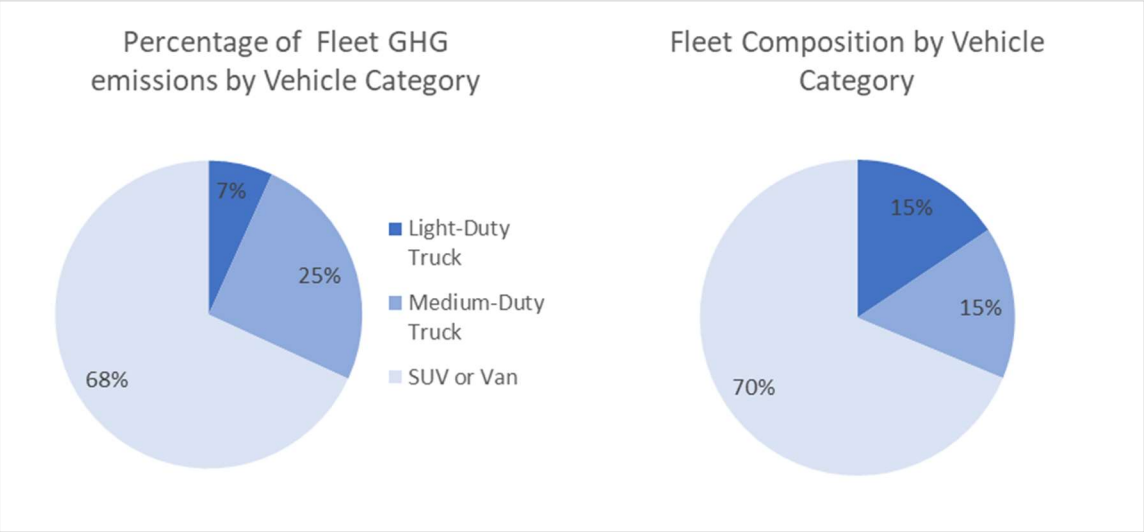

Figure 5. Fleet GHG emissions and fleet composition breakdown by vehicle category

4. OPPORTUNITIES ANALYSIS

This section provides a summary of the electric vehicle replacement options currently on the market, highlights the recommended options and then provides descriptions of the preferred EV replacement options selected.

4.1 Vehicle Replacement Options Summary

There are multiple EV replacement options currently available for the district's SUV's, vans and light-duty trucks. There are currently no available replacement options that will meet the district's medium-duty truck needs, however market trends show that EV replacement options for this vehicle category are likely to become available within the next 5 to 10 years.

Table 2 shows a summary of the vehicle replacement options and their key statistics that were shortlisted during the opportunities analysis. The green rows in the table indicate the vehicles that were selected as preferred options based on the assumptions identified in Section 1 and discussions with the district. These selections have been incorporated into the district's fleet electrification modelling. Section 4.2 describes the preferred vehicle options in detail.

Table 2. Vehicle Replacement Options

Vehicle Category	Existing Vehicle	EV Option	Range (kms)	MSRP	Available Incentives*	Estimated Capital Cost
SUV or Van	Cargo Van	Ford E-Transit	180-203	$72,150	$10,000	$62,150
	Cargo Van	EVT Logistics Van	274	$177,995	$59,272	$118, 723
	Cargo Van	Lighting emotors 80kWh cargo van	225	$217,684	$72,489	$145,195
	Minivan	Pacifica Hybrid	51 electric 835 total	$59,995	$6,500	$53,495
	Minivan	Kia Soul Electric	248 – 383	$43,095 – $52,095	$9,000	$34,095 - $43,095
	SUV	Chevrolet Bolt EUV	397	$40,198	$9,000	$31,198
	SUV	Hyundai Kona	415	$44,399	$9,000	$35,399
	SUV	Kia Niro	407	$44,995	$9,000	$35,995
Light Duty Truck	Light Duty Pick-Up	F-150 Lighting	370-515	$79,000 - $95,000	$4000	$75,000 - $91,000
Medium Duty Truck	Medium-duty Pick-up	EVT Urban Truck (Class 4)	274	$187,995	$62,602	$125,393
Includes federal and provincial incentives listed on government eligible vehicle lists as of Feb 2023						

4.2 Baseline and Opportunities Assessment Results

The results of the fleet baseline assessment and the opportunities analysis indicate there are feasible EV replacement options for 23 out of the district's 32 fleet vehicles (72%) (Figure 6). Furthermore, there are feasible EV replacement options for all eight of the vehicles scheduled to be replaced in the next three years.

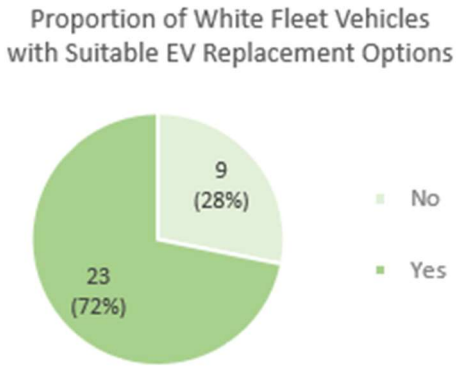

Figure 6. Proportion of white fleet vehicles with suitable EV replacement options

4.3 Preferred EV Replacement Option Descriptions

Cargo Vans (Category: SUV and Van)

The Ford E-transit cargo van was selected as the preferred replacement option for the district's existing cargo vans. It has sufficient range to meet the district's needs (186kms of available range compared to the districts average daily maximum driving distance of less than 40kms) and provides similar cargo space and gross vehicle weight ratings (GVWRs) to gas powered replacement options such as the Ford Transit or Chevrolet Express vans.

Figure 7 Ford E-transit cargo van

Photo credit: https://www.ford.com/commercial-trucks/e-transit/

Minivans (Category: SUV and Van)

The Chrysler Pacifica plug-in hybrid electric minivan was selected as the preferred replacement option for the district's existing minivans and small cargo vans (two transit connect vans). The district currently has two minivans with an average daily maximum driving distance of 30kms/day and two small utility vehicles which have highly variable maximum daily driving distances that can reach as high as 400kms/day. There are no battery electric minivans available on the market at present, therefore the district selected a plug-in hybrid electric vehicle with a range of greater than 400kms as the preferred replacement option.

The Pacifica has an electric range of 51kms, which will meet most of the district's daily needs for this vehicle category. In addition, with the hybrid technology, the vehicle has a full range of 835kms for days when additional travel is needed. The vehicle also features seating for seven (a key requirement for the district) and a stow n' go back seat to allow for additional cargo space when needed.

Figure 8. Chrysler Pacifica plug-in hybrid electric minivan Photo credit: https://www.chrysler.ca/en/pacificahybrid/2022

Light-duty Trucks (Category: Light Duty Pick Up)

The Ford F-150 Lightning was selected as the preferred replacement option for the district's existing half-ton light-duty pick-up trucks and its SUVs. The Lightning has sufficient range to meet the district's needs (370kms – 515kms of available range compared to the district's average daily maximum driving distance of less than 20kms) and a higher towing capacity than an equivalent F150 gas powered replacement option. The truck also features a lockable front trunk, where the engine compartment would typically be on a gas-powered vehicle and comes with 11 power outlets that can be used to charge DC equipment (or AC equipment with adapter). It should be noted that the Lightning has a 5.5 foot box which may limit its utility in some applications.

Figure 9 Ford F150 Lightning

Photo credit: https://www.ford.ca/trucks/f150/f150-lightning/

5. FLEET ELECTRIFICATION MODELLING

Informed by the results of the district's vehicle baseline and the opportunities assessment, Prism modelled two future fleet scenarios to enable the district to compare two potential fleet renewal pathways.

- Scenario 1:" ICE to ICE" scenario represents the "business as usual" scenario and assumes that no EV's will be purchased and all current ICE vehicles will be replaced with an equivalent ICE vehicle upon renewal.
- Scenario 2: "EV" scenario assumes that all vehicles which can be electrified (including vans, SUV's, and light-duty trucks) will be replaced with an equivalent EV upon renewal and that any vehicles that cannot be electrified with currently available EV technologies (including medium-duty trucks) will be replaced with an equivalent ICE vehicle upon renewal.

This section highlights the details of the EV scenario and discusses the financial and GHG emissions impacts for both scenarios.

5.1 EV Scenario Details

Figure 9 shows the number of EV's and ICE's that will be acquired each year under the EV scenario from 2023-2036 and Figure 10 shows the impact that this will have on the number and percentage of EV's in the district's fleet. Under the EV scenario the proportion of EV's in the district's fleet would increase to 33% (10 vehicles) by 2030 and 76% (23 vehicles) by 2036. See Appendix B for the planned replacement dates and recommended replacement option for all vehicles.

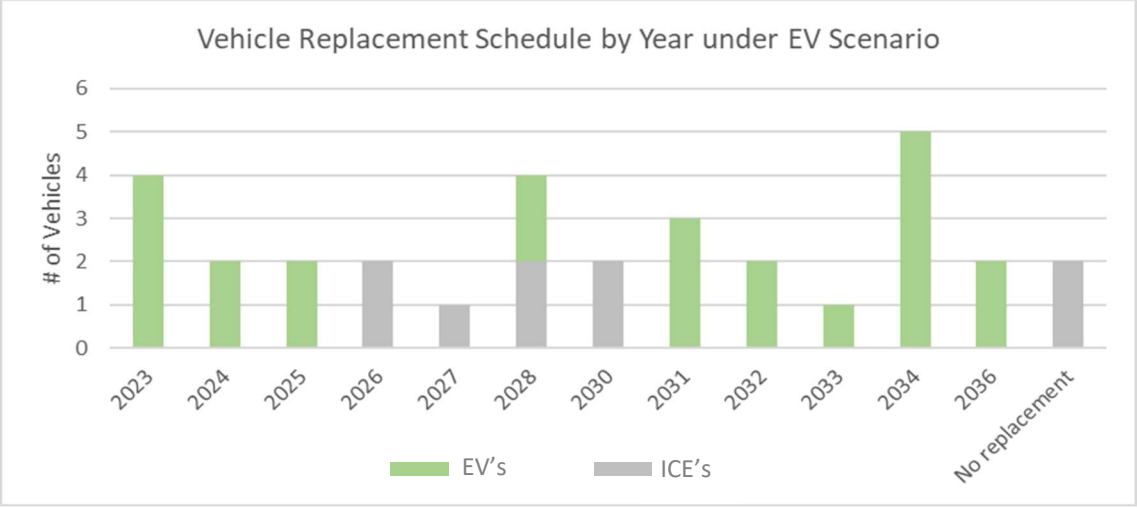

Figure 10. Planned vehicle replacement schedule by year and fuel type under EV Scenario

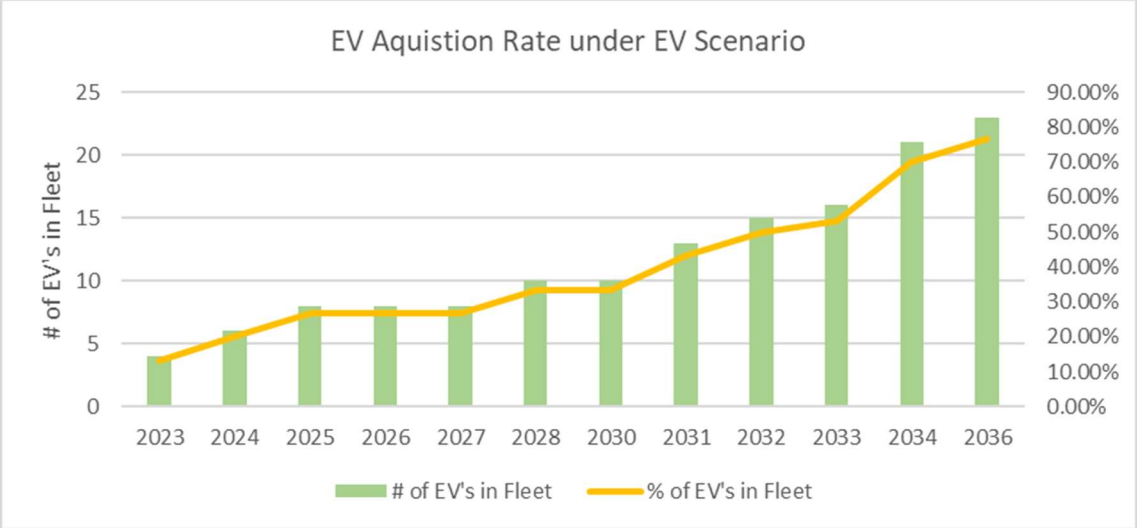

Figure 11. EV Acquisition Rate

5.2 Financial Impacts

5.2.1 Cost Savings

The transition to EV's will have an impact on both the district's capital expenditures and its operating expenses year over year. Figure 11 shows the variation in the total annual costs in the ICE scenario vs the EV scenario and the total cumulative impact of cost savings from 2023-2036. Total annual and total cumulative costs shown include the following:

- Vehicle purchases (including point of sale federal and CleanBC purchase incentives)
- Electrical infrastructure upgrades (in 2024 for Golden and Kimberly)
- EV charger installations
- Operating costs (vehicle fuel/electricity, maintenance and insurance, carbon offsets, and charger network subscription fees)
- CleanBC EV infrastructure incentives (including electrical capacity upgrade and EV charger incentives)

In the EV scenario total annual costs are lower for six and higher for four out of the next ten years. Total cumulative costs are roughly on par in both scenarios until 2032 at which point the total cumulative costs in the ICE scenario begin to consistently exceed the total cumulative costs under the EV scenario. If CleanBC charging incentives are not included in total cost modelling (i.e. if the district is not able to obtain these incentives) then it would take the district until 2034 for the total cumulative costs in the EV scenario to drop below the total cumulative costs in the ICE scenario.

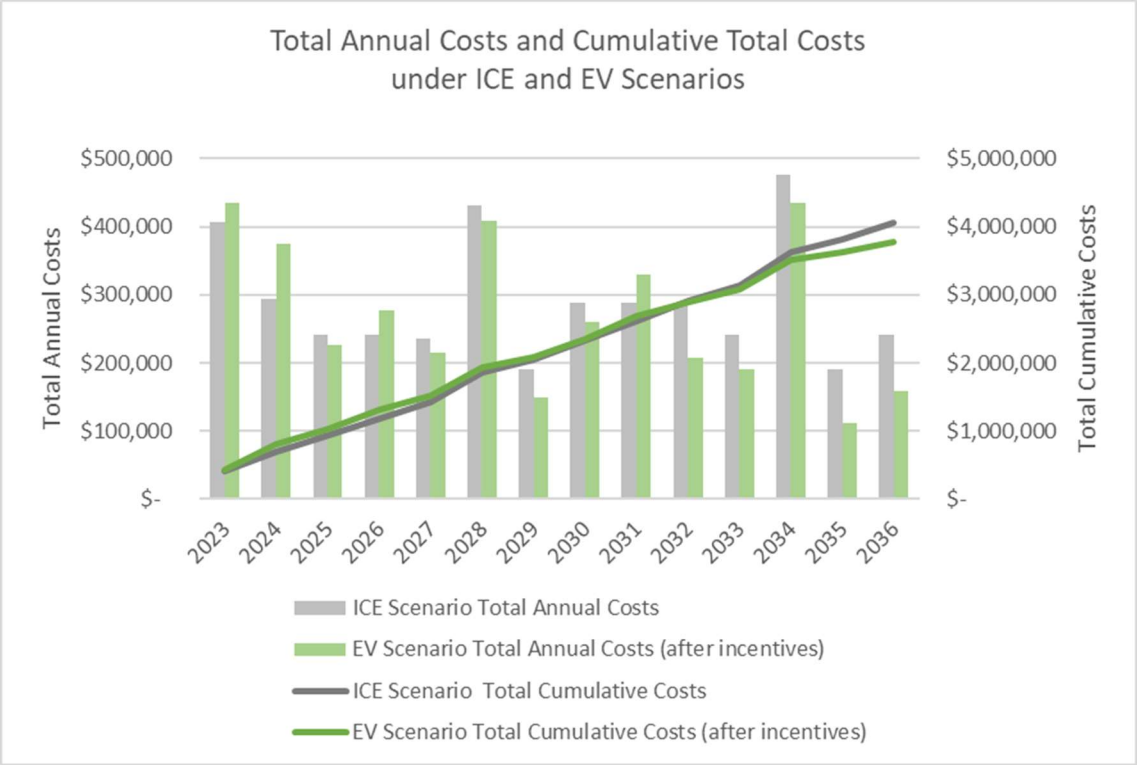

Figure 12. Total annual costs and total cumulative costs from 2023 - 2036 under ICE and EV scenarios

Table 3 and Table 4 provide additional detail for the ICE and EV scenarios, showing the projected annual capital costs, operating costs, EV infrastructure incentives and total costs.

Table 3. ICE Scenario Capital Outlay, Operating Costs, and Incentives 2023-2036

Year	Capital Cost	Operating Cost	CleanBC EV Infrastructure Incentives	Total Annual Costs
2023	$ 215,869	$ 190,504	-	$ 406,373
2024	$ 103,260	$ 190,504	-	$ 293,764
2025	$ 51,630	$ 190,504	-	$ 242,134
2026	$ 51,630	$ 190,504	-	$ 242,134
2027	$ 46,055	$ 190,504	-	$ 236,559
2028	$ 240,098	$ 190,504	-	$ 430,602
2029	$ -	$ 190,504	-	$ 190,504
2030	$ 97,685	$ 190,504	-	$ 288,189
2031	$ 97,685	$ 190,504	-	$ 288,189
2032	$ 94,045	$ 190,504	-	$ 284,549
2033	$ 51,630	$ 190,504	-	$ 242,134
2034	$ 285,588	$ 190,504	-	$ 476,092
2035	$ -	$ 190,504	-	$ 190,504
2036	$ 51,630	$ 190,504	-	$ 242,134
Total Cumulative Costs between 2023 – 2036 in ICE Scenario				$ 4,053,861

Table 4. EV Scenario Capital Outlay, Operating Costs, and Incentives 2023 - 2036

Year	Capital Cost	Operating Cost	CleanBC EV Infrastructure Incentives	Total Annual Costs
2023	$ 258,929	$ 176,146	$ 14,000	$ 435,075
2024	$ 208,088	$ 166,209	$ 66,500	$ 374,297
2025	$ 72,150	$ 154,513	$ 4,000	$ 226,663
2026	$ 123,129	$ 153,946	$ -	$ 277,075
2027	$ 62,150	$ 153,723	$ -	$ 215,873
2028	$ 259,300	$ 149,558	$ 4,000	$ 408,858
2029	$ -	$ 149,558	$ -	$ 149,558
2030	$ 117,495	$ 141,743	$ -	$ 259,238
2031	$ 199,879	$ 130,147	$ 6,000	$ 330,026
2032	$ 81,109	$ 125,979	$ 2,250	$ 207,088
2033	$ 65,650	$ 124,639	$ 2,000	$ 190,289
2034	$ 322,845	$ 111,531	$ 8,250	$ 434,376
2035	$ -	$ 111,531	$ -	$ 111,531
2036	$ 53,995	$ 104,819	$ 500	$ 158,814
Total Cumulative Costs between 2023 – 2036 in EV Scenario				$3,778,764

While capital costs are projected to increase in the EV scenario, operating costs are projected to decrease by 25% by 2030 and 45% by 2036 compared with baseline operating costs. As a result, as outlined in Table 5, life cycle costs under the EV scenario are projected to be $764,000 (19%) less than life cycle costs under the ICE Scenario.

Table 5. Fleet Life Cycle Costs

Scenarios and Results	Fleet Life Cycle Cost
ICE Scenario	$3,981,345
EV Scenario	$3,216,862
% Reduction between ICE and EV Scenarios	-19%

5.2.2 Low Carbon Fuel Credits

Through the Low Carbon Fuel Standard[2] the district has the potential to earn low carbon fuel credits for every kWh of electricity that it dispenses from all EV chargers that it owns and operates. These credits can then be sold on the low carbon fuel credit market to generate revenue for the district. Figure 13 shows the projected number of low carbon fuel credits the district could potentially earn each year and their estimated market value. For this estimate, it is assumed that low carbon fuel credits are valued at $340/MWh for replacing gasoline with electricity as a vehicle fuel source. Due to the relatively low number of credits that the district is likely to earn in a year (compared to the volume of these credits a fuel producer is likely to be looking for) the district should consider working with a broker or exploring the potential of pooling their credits with other organizations (such as other school districts) in order to collect enough credits to make them more collectively competitive on the low carbon credit market.

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

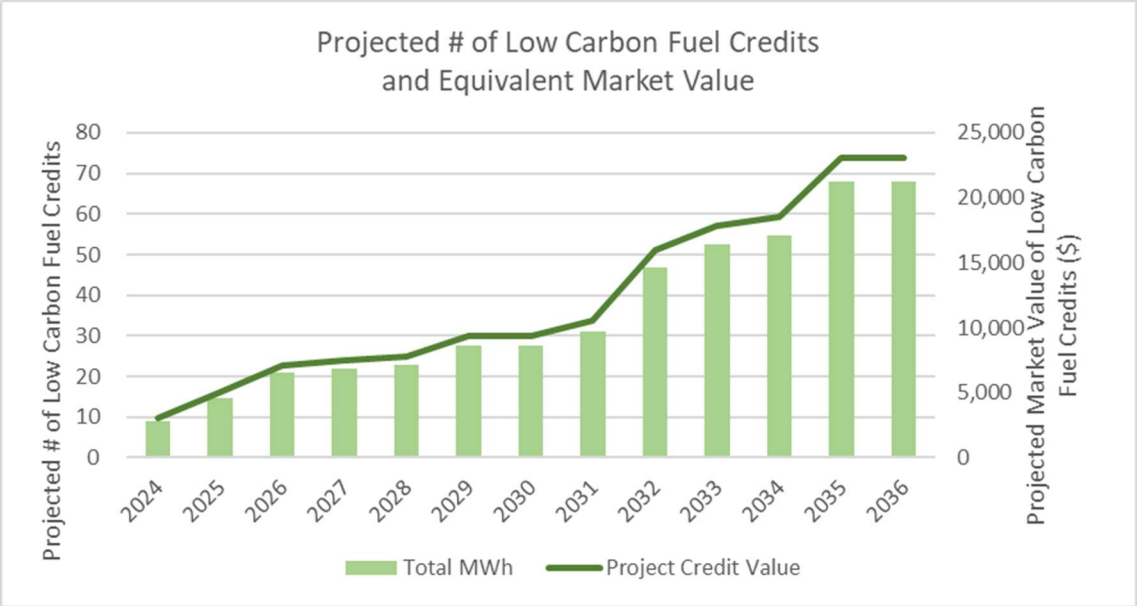

Figure 13. Projected number and market value of low carbon fuel credits from fleet EV charging under EV scenarios

5.3 GHG Emissions Impacts

In addition to cost savings, fleet electrification has the potential to reduce the district's fleet GHG emissions. Figure 14 shows the projected GHG emissions under the EV Scenario. Emissions start decreasing in 2023 with the first EV's purchased and continue decreasing each subsequent year. As outlined in Table 6, this would result in a 35% (42tCO_2e) decrease in emissions by 2030 and a 79% (95tCO_2e) decrease by 2036.

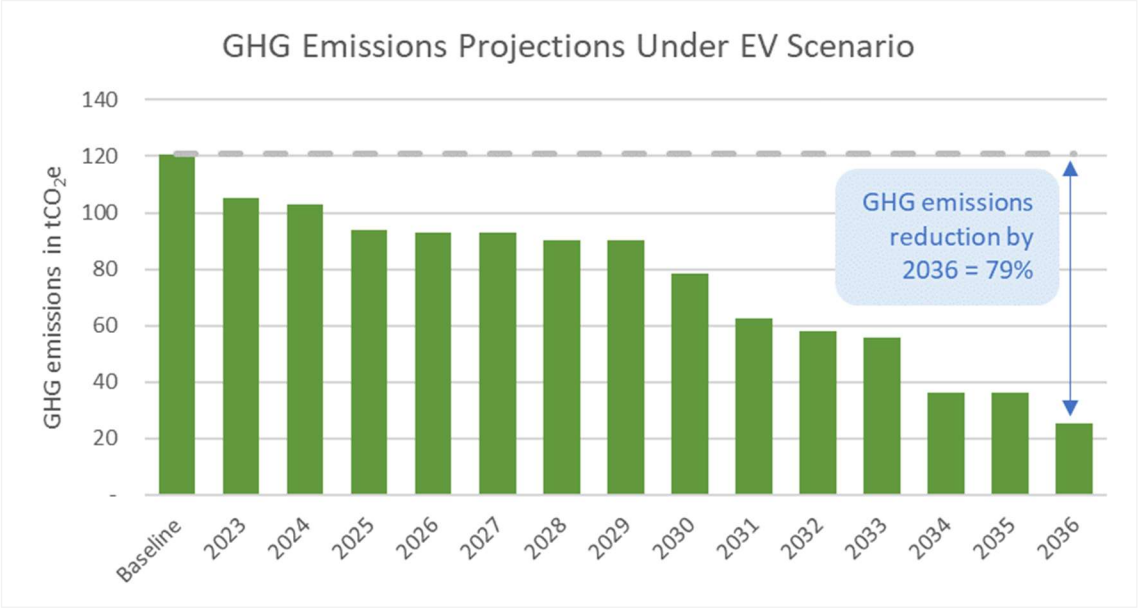

Figure 14. GHG emissions projections under EV Scenario compared to baseline GHG emissions

Table 6. Fleet Life GHG Emissions

Scenarios and Results	Fleet Life Cycle GHG Emissions
ICE Scenario	1487 tCO2e*
EV Scenario	410 tCO2e
% Reduction between ICE and EV Scenarios	-72%
% Reduction between baseline and EV Scenarios	-79%

6. CHARGING STRATEGY AND ALIGNMENT WITH INFRASTRUCTURE ASSESSMENT

Falcon Engineering conducted electrical infrastructure assessments at the following locations:

1. Golden Operations Building – 812 14 St South, Golden, BC
2. Invermere Operations Building – 1302 Industrial Road No. 1, Athalmer, BC
3. Kimberley Operations Building – 8676 Kimberley Highway, Kimberley, BC

Prism aligned fleet electrification modelling projections with the electrical infrastructure assessment findings and developed an EV charging strategy that will provide sufficient charging capacity for all the planned EV purchases included in the fleet electrification modelling EV scenario. Details on the number of charging ports and circuits, as well as estimated installation costs, for each location are provided in Section 6.2 and 6.3.

Please refer to the Electrical Infrastructure Assessment reports in Appendix C for further details on the existing electrical infrastructure at each location.

This section outlines vehicle charging requirements, provides a vehicle charging strategy, highlights a set of charging infrastructure requirements and concludes with operating cost considerations.

6.1 Vehicle Charging Requirements

Charging requirements are based on the EV replacements summarized along with their battery capacity and EPA range in Table 7.

Table 7. EV Battery Capacity and Range

EV Make	EV Model	Battery Capacity	EPA Range
Ford	E-Transit Cargo – Low Roof	68 kWh	203 km
Ford	E-Transit Cargo – Med Roof	68 kWh	187 km
Ford	F-150 Lightning	115 kWh	370 km

Ford recommends the following charging power for optimized charging speeds for the following vehicle types:

- E-Transit - 48A (60A breaker)
- F-150 Lightning – 80A (100A Breaker) [Included with F-150 Extended Range Purchase]

Estimated hourly range increase and full charging times for the various charging levels are summarized in Table 8.

Table 8. Estimated Range Gained for Different Charging Levels

Charging Level	Estimated Range Gained Per Hour (Minimum)		Estimated Time to Full Charge	
	Ford E-Transit Cargo	Ford F-150 Lightning	Ford E-Transit Cargo	Ford F-150 Lightning
Level 1 – 12A (15A Breaker)	3 km	5 km	48 hrs	80 hrs
Level 1 – 16A (20A Breaker)	5 km	6 km	36 hrs	60 hrs
Level 2 – 32A (40A Breaker)	20 km	21 km	10 hrs	17 hrs
Level 2 – 48A (60A Breaker)	30 km	32 km	7 hrs	12 hrs
Level 2 – 80A (100A Breaker)	30 km*	53 km	7 hrs*	7 hrs
DC Fast Charging – 30 kW	85 km	96 km	< 2 hrs to 80%	< 3 hrs to 80%
DC Fast Charging – 50 kW	145 km	160 km	~1 hr to 80%	< 2 hrs to 80%
DC Fast Charging – 100 kW	160 km**	300 km**	< 1 hr to 80%	< 1 hr to 80%

*Exceeds rating of on-board charging system
**80% Charge in less than 1 hour

6.2 Charging Strategy

Based on the recommended transition scenario outline in this report, electric vehicles would be distributed and parked overnight at the locations outlined in Table 9.

Table 9. EV Charging Load Analysis

Location	Address	No. of EV's	Number of Required Charging Ports
Golden Operations Building	812 14 St South, Golden, BC	8	8
Invermere Operations Building	1302 Industrial Road No. 1, Athalmer, BC	8	8
Kimberley Operations Building	8676 Kimberley Highway, Kimberley, BC	7	7
	Grand Total	**23**	**23**

To ensure each vehicle has the ability to charge overnight, we recommend providing one Level 2 charging port per vehicle being parked overnight at each location. Charging stations typically have either one or two ports per station. For example, providing one charging port for 10

vehicles can be achieved by using 10 single-port charging stations or five (5) dual-port charging stations.

Furthermore, we analyzed the average daily driving distances for each vehicle, along with the rated range of the EV replacements and determined that up to four vehicles can share a 48A rated (60A breaker) Level 2 circuit and recharge sufficiently during a 12-hour overnight period. A charging station load management system will be required at each location with multiple stations to automatically control and optimize the charging rates for each vehicle.

The charging analysis is based on a recommended charging schedule of 12-14 hours with each vehicle being plugged into a charging station at the end of each day. Daily charging periods are estimated to be from 5PM to 5AM.

Minimum and recommended charging level for each EV type, along with the recommended circuit utilization (load sharing/management), are summarized in Table 10.

Table 10. EV Options and Corresponding Charging Levels

EV Option	Minimum Charging Level	Recommended Charging Level	Recommended Circuit Utilization
Ford E-Transit Cargo	Level 2 – 32A (40A Breaker)	Level 2 – 48A (60A Breaker)	4:1
Ford F-150 Lightning	Level 2 – 32A (40A Breaker)	Level 2 – 80A (100A Breaker)	1:1
Chrysler Pacifica Hybrid	Level 1 – 12A (15A Breaker)	Level 1 – 12A (15A Breaker)	N/A

An example of four single-port Level 2 charging stations sharing a 32A rated circuit (40A breaker) is shown in Figure 15, this demonstrates a 4:1 circuit utilization.

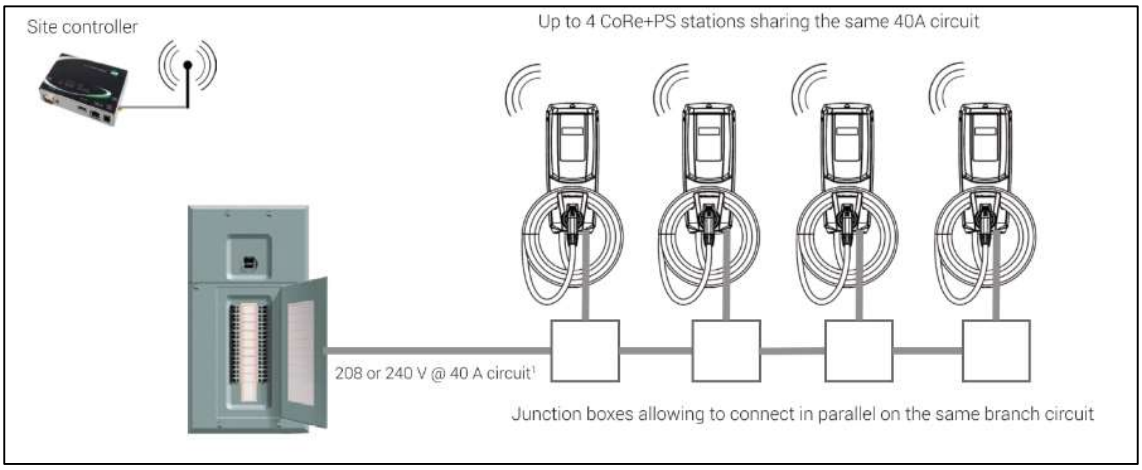

Figure 15. System Diagram for Load Sharing Configuration (4:1 Circuit Utilization)

6.3 Infrastructure Requirements

The total number of charging circuits and maximum charging demand (kW) for the recommended charging configuration at each location are summarized in Table 11. Load sharing will reduce the charging infrastructure costs at each location by reducing the overall electrical demand requirements.

Table 11. EV Charging Load Analysis

Location	Address	No. of EV's	Number of Required Charging Ports	Number of Level 2 Charging Circuits	Max Charging Demand
Golden Operations Building	812 14 St South, Golden, BC	8	8	1 x 12A (1:1) 1 x 60A (4:1) 3 x 100A (1:1)	61.3 kW
Invermere Operations Building	1302 Industrial Road No. 1, Athalmer, BC	8	8	2 x 12A (1:1) 2 x 60A (4:1)	22.8 kW
Kimberley Operations Building	8676 Kimberley Highway, Kimberley, BC	7	7	1 x 12A (1:1) 2 x 60A (4:1) 1 x 100A (1:1)	38.0 kW
Grand Total		**23**	**23**	**13**	**122.1 kW**

In coordination with the EV Infrastructure Assessment completed by Falcon Engineering (Appendix C), and based on the estimated demand in Table 11, the Golden and Kimberly buildings will require utility service upgrades (from BC Hydro) to fully implement the recommended charging scenarios. The main service entrance and distribution equipment at the Invermere Operations Building should be adequate to support the estimated demand, however the utility service may require upgrades to supply the additional load analysis and BC Hydro coordination may be required to assess the utility capacity.

The recommended service upgrades are as follows:

- Golden Operations Building – Upgrade BC Hydro service from 50 kVA to minimum 150 kVA with minimum 400A Main Distribution Centre (MDC)
- Kimberley Operations Building – Upgrade BC Hydro service from 30 kVA to minimum 75 kVA with minimum 200A Main Distribution Centre (MDC)

Estimated installation costs, which include material and labour costs, for each location are provided in Table 12. Cost estimates and budgets will need to be updated as part of the detailed design phase to reflect actual installation requirements and any limitation of the existing electrical distribution systems.

Table 12. Charging Station Infrastructure Cost Estimates

Location	Address	Number of Charging Ports	Number of Level 2 Charging Circuits	Charging Station Cost Estimate (Material and Labour)	Electrical Service Upgrade Costs
Golden Operations Building	812 14 St South, Golden, BC	8	1 x 12A 1:1) 1 x 60A (4:1) 3 x 100A (1:1)	$45,000	$75,000
Invermere Operations Building	1302 Industrial Road No. 1, Athalmer, BC	8	2 x 12A (1:1) 2 x 60A (4:1)	$43,000	N/A
Kimberley Operations Building	8676 Kimberley Highway, Kimberley, BC	7	1 x 12A 1:1) 2 x 60A (4:1) 1 x 100A (1:1)	$42,000	$50,000
Grand Total		**23**	**13**	**$130,000**	**$125,000**

At present time we do not see a need for Level 3 DC fast charging at any locations, though this may change in the future, depending on the real-world range performance and daily driving distances required for each vehicle. Typical costs to purchase and install a Level 3 DC fast charger are $70,000 to $80,000 assuming there is sufficient spare electrical capacity (minimum 50 kW per charger).

Public DC fast charging infrastructure can be utilized when traveling longer distances between sites.

Table 13 summarizes the closest public DC fast charging stations, along with the power ratings, each location.

Table 13. Public DC Fast Charging (DCFC) Infrastructure

Location	DCFC Address	Distance from Location	Provider	Power Rating
Golden Operations Building	810 9 Ave S, Golden	1.0 km (2 min)	BC Hydro	1 x 50 kW (CCS)
	1020 Trans-Canada Hwy, Golden	3.4 km (6 min)	On The Run Convenience	3 x 150 kW (CCS)
	1417 Trans-Canada Hwy, Golden	3.7 km (6 min)	Petro-Canada	2 x 200 kW (CCS)
	1439 Lafontain Rd, Golden	5.0 km (8 min)	Electrify Canada	7 x 150 – 350 kW (CCS)
Invermere Operations Building	4863 Stanley St, Radium Hot Springs	16.9 km (15 min)	BC Hydro	1 x 50 kW (CCS)
	4925 Burns Ave, Canal Flats	51.8 km (37 min)	BC Hydro	1 x 50 kW (CCS)
Kimberley Operations Building	1816 Cranbrook St N, Cranbrook	32.3 km (28 min)	FLO	1 x 50 kW (CCS)
	1500 Cranbrook St N, Cranbrook	32.3 km (28 min)	FLO	2 x 50 kW (CCS)
	702 Cranbrook St N, Cranbrook	32.7 km (29 min)	On The Run Convenience	1 x 150 kW (CCS) Coming Soon
	38 Cranbrook St, N, Cranbrook	33.5 km (31 min)	BC Hydro	1 x 50 kW (CCS)
			Total	**20**

6.4 Operating Costs

In addition to the added utility costs associated with charging the vehicles, the fleet charging stations will require annual network service fees for load management capabilities to allow for the recommended 4:1 circuit utilization. Annual service fees range from $150 to $250 per charging port depending on the service provider. Total operating costs for each location are summarized in Table 14.

Table 14. Charging Station Infrastructure Cost Estimates

Location	Address	Number of Charging Ports	Annual Operating Costs (Network Service Fees)
Golden Operations Building	812 14 St South, Golden, BC	8	$600 - $1,000*
Invermere Operations Building	1302 Industrial Road No. 1, Athalmer, BC	8	$750 - $1,250*
Kimberley Operations Building	8676 Kimberley Highway, Kimberley, BC	7	$900 - $1,500*
	Grand Total	**23**	**$2,250 - $3,750**

**Excludes service fees for Ford F-150 Lightning Chargers. Load management not recommended.*

These load management systems will also be able to track charging station usage which can be used to obtain credits as part of the BC Low Carbon Fuel Standard (BC-LCFS). These credits can in turn be sold and used to offset the service fees and/or be used as an additional revenue stream for the district.

7. CONCLUSIONS AND RECOMMENDATIONS

Rocky Mountain School District has the potential to electrify 72% of its fleet with currently available technology. This includes all of the district's vans, SUV's and light-duty trucks. There are no currently available replacement options that will meet the district's medium-duty truck needs; however, market trends show that EV replacement options for this vehicle category are likely to become available within the next 5-10yrs.

The transition to EV's will have an impact on both the district's capital and operating costs. While the capital cost of purchasing EVs is higher than the capital cost of purchasing ICEs, the operations and maintenance costs of EVs are lower. There are also capital costs associated with installing the EV chargers and completing electrical service upgrades at Golden and Kimberly to support fleet electrification.

The district is eligible for a number of government incentives that can help support this work including the following:

- Vehicle purchase incentives under the CleanBC Go Electric Fleets program and the Federal iZEV program
- Electrical infrastructure upgrade incentives under the CleanBC Go Electric Fleets program (or the BC Hydro EV Ready Fleet program)
- EV charger incentives under the CleanBC Go Electric Fleets program (or the BC Hydro EV Ready Fleet program, or the Federal ZEVIP program, but not all three)

To assess the potential financial and GHG emissions impacts of fleet electrification, Prism modelled two potential scenarios.

1. **ICE Scenario** - no EV's will be purchased and all current ICE vehicles are replaced with an equivalent ICE vehicle upon renewal
2. **EV Scenario** – All vans, SUV's and light-duty trucks will be replaced with and equivalent EV and all medium-duty trucks will be replaced with and equivalent ICE vehicle upon renewal.

The results show that fleet costs will decrease in the long-term and that the district's GHG emissions begin to drop immediately. Total annual fleet costs (including EV/ICE capital costs, EV charging infrastructure costs, operations, and maintenance costs, and CleanBC incentives) under the EV scenario are lower for six and higher for four of the next ten years. Total cumulative costs are roughly on par during this period and beginning in 2032 the total cumulative cost of the ICE scenario begin to consistently exceed the total cumulative costs under the EV scenario. GHG emissions decrease in each year that EVs are purchased to replace existing ICE's leading to decreases in GHG emissions of 35% by 2030 and 79% by 2036. If the district identifies and begins purchasing electric alternatives for medium-duty trucks the district will be able to decrease emissions even further.

Recommendations

- Use Invermere as a pilot sites and begin purchasing EV replacements for vehicles at this site beginning in 2023. This site is ideal as a pilot site because it does not require electrical infrastructure upgrades to accommodate EV charger installation.

- Develop a change management plan to help support the pilot project, improve its chances of success and increase stakeholder buy-in.
- Each time a vehicle is replaced complete a use case assessment to ensure that the vehicle is right-sized.
- Ensure all installed charging has a sufficient level of metering or monitoring to enable the district to track and report on the electrical consumption associated with EV charging.
- Ensure each electric or plug-in hybrid vehicle has a designated charging port with suitable power to re-charge based on average daily driving distances.
- Utilize EV energy management systems (EVEMS) to manage fleet charging systems.
- Pursue all provincial and federal incentive funding to help support fleet electrification efforts.
- Review and update this plan every 3-5 years to incorporate new vehicle replacement options as they become available particularly in the medium-duty truck category.
- Seek out a low carbon fuel credits broker or partner with other organization to pool low carbon fuel credits to pursue this as a revenue source for the district.

In conclusion, the Rocky Mountain School District is in a strong position to decrease its emissions through fleet electrification while reducing the organizations long-term financial costs. The use of vehicle right-sizing, financial incentives and a solid change management plan will help ensure a smoother and more cost-effective fleet electrification transition and help set the district up for long-term success.

APPENDIX A – Assumptions and Inputs

Opportunities Analysis

The following assumptions were established in collaboration with the district and were used to help inform the opportunities analysis:

- All vehicles will be replaced with the closest equivalent EV alternative unless otherwise specified (i.e., cargo vans will be replaced with electric cargo vans, pick-up trucks with electric pick-up trucks etc.)
- All new cargo vans are to have mid-height roofs
- The lowest cost EV alternative (after vehicle purchase incentives are applied) will be selected where multiple replacement options exist
- All EV replacement options must meet the daily maximum range requirements of the vehicle they will be replacing
- If the current vehicle is a 4x4 then the replacement EV should be 4x4 or AWD
- Plug-in hybrid EVs can be considered where battery EV replacement options are not available
- The selected vehicle replacement options must be available for sale in Canada
- The district does not have a brand preference

Modelling

Emission Factors

- GHG emissions were estimated based on the 2021 B.C. Best Practices methodology for quantifying greenhouse gas emissions[3] and used the following emission factors:

- Electricity (tCO2e / kWh) = 0.0000115
- Gasoline (tCO2e / litre) = 0.002453
- Diesel (tCO2e / litre) = 0.002747

Cost Inputs

- The fuel prices for diesel ($1.47/L) and gasoline ($1.45/L) are based on a 3-yr average of retail prices from 2020 to 2022, from Natural Resource Canada.[4]
- The fuel price for electricity is $0.10/kWh based on BC Hydro's medium general service rate for business customers.[5]
- Annual maintenance costs for a new ICE vehicle are equal to those of an equivalent current ICE fleet vehicle (as supplied by the district) and annual maintenance costs for new EVs are equal to 50% of those of an equivalent current ICE fleet vehicle.[6]
- Carbon offset costs are $25/$tCO_2e$/yr.
- Increases in the Provincial and Federal carbon taxes have not been included in the modelling used for this assessment.
- Operating costs include energy/fuel, maintenance, PSO carbon offsets, and insurance.

Provincial and Federal Incentives

This fleet electrification analysis and plan includes incentive funding estimates based on the following assumptions:

- The district will apply for CleanBC's Go Electric Fleets EV charging and electrical infrastructure upgrade incentives and will be subject to the parameters and limitations of this program.
- EV charger incentives will continue to be available for the duration of this plan at the Feb 2023 incentive values.
- Electrical charging infrastructure incentives will continue to be available until at least 2024 (the recommended year for electrical infrastructure upgrades to be completed) at Feb 2023 incentive values.
- Federal and Provincial point of sale EV purchase incentives will continue to be available for the duration of this plan at the Feb 2023 values

Additional Modelling Assumptions

- EV chargers will be purchased and installed the same year as the EV they are going to be used for is purchased
- Vehicle lifespans are 15years for SUV's, vans and light-duty trucks and 20 years for medium-duty trucks

Appendix B – Detailed Fleet Electrification Transition Plan by Unit

Please see accompanying spreadsheet Labelled: *Appendix B_Detailed Fleet Electrification Transition Plan by Unit_2023 Rocky Mountain School District EV Ready Plan*

APPENDIX C – Electrical Infrastructure Assessments

Please see attached Falcon Engineering 's Electrical Chargers Feasibility Reports for Golden, Kimberly and Inverness District operations buildings.

[3] https://www2.gov.bc.ca/assets/gov/environment/climate-change/cng/methodology/2021-best-practices-methodology.pdf
[4] https://natural-resources.canada.ca/our-natural-resources/domestic-and-international-markets/transportation-fuel-prices/4593
[5] https://app.bchydro.com/accounts-billing/rates-energy-use/electricity-rates/business-rates.html
[6] https://advocacy.consumerreports.org/wp-content/uploads/2020/10/EV-Ownership-Cost-Final-Report-1.pdf, https://www.researchgate.net/publication/351599029_Fuel_economy_annual_fuel_costs_and_maintenance_of_conventional_and_electric_vehicles

REGULAR MEETING: INFORMATION

DATE: January 8, 2024

TO: Board of Trustees

FROM: Karen Shipka, Superintendent of Schools

SUBJECT: Columbia Valley Situation Table

ORIGINATOR: Sharon Collin, Director of Instruction

REFERENCE: [Community Safety: Situation Tables]

PUBLIC BOARD MEETING

ISSUE

That the Board receive an update regarding Columbia Valley Situation Table

BACKGROUND

The Situation Table is a model for community safety and well-being in British Columbia supported by the Ministry of Public Safety and the Solicitor General. RCMP based out of the community of Invermere were awarded a start-up grant in the Spring of 2023 to engage community stakeholders in the creation of a Situation Table in the Columbia Valley. At this time, RMSD committed to join the Situation Table as a core table participant.

CURRENT SITUATION

During a Situation Table front line human services and justice professionals come together collaboratively once a week for 90 minutes to address situations of Acutely Elevated Risk (AER). AER refers to situations where individuals and/or families are facing a composite level of risk factors spanning across multiple human services and justice disciplines, and where there is a high probability of harm occurring soon. In this confidential, carefully designed conversation a group of community agencies will mobilize multi-agency supports (ideally within 24 – 48 hours) leading to a connection for the family or individual to essential services available to mitigate risk and ensure improved pathways to care and support. Following an intervention, the ongoing work is carried on by the agencies involved, in a typical collaborative care manner, but away from the Table.

RMSD, as the education partner at the situation table, has an opportunity to both present situations and support interventions impacting individuals within our school communities. Our presence at the situation table takes collaboration to a new level, building trust and strengthening inter-agency relationships.

The first situation table was held on Monday, December 11, 2023.

FINANCIAL IMPLICATIONS

It is the intention to meet the obligation of participation at the Situation Table within currently allocated resources. The District Vice Principals of Learning Services and Indigenous Education, along with the school principals in the Windermere zone will receive one day of training in the community from the Situation Table mentors. This training will help the principals understand how to gather risk-based data and report to the situation table when acutely elevated risk is identified. Supportive interventions offered by district staff would reflect work that is currently already being done in school communities.

January 2024

Sun	Mon	Tue	Wed	Thu	Fri	Sat
	1 **Winter Break**	2 **Winter Break**	3 **Winter Break**	4 **Winter Break**	5 **Winter Break**	6
7	8	9 **Board of Education Meeting, Virtual** 6:00 pm In-Camera 7:00 pm Regular	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25 BCPSEA AGM – Online	26 BCPSEA AGM - Online	27
28	29	30 **Policy Committee** Virtual at 4:30 pm	31 **Policy Committee** Virtual at 4:30 pm			

February 2024

Sun	Mon	Tue	Wed	Thu	Fri	Sat
				1	2	3
4	5	6 **Labour Relations Committee** Virtual 12:30	7	8	9	10
11	12	13 **Board of Education Meeting, Virtual** 6:00 pm In-Camera 7:00 pm Regular	14	15	16	17
18	19 Family Day	20 Non-Instructional Day	21	22	23	24
25	26	27 **Policy Committee** Virtual at 4:30 pm	28 **Policy Committee** Virtual at 4:30 pm	29		