

Zero Emissions Vehicle Awareness Initiative

The Zero Emission Vehicle Awareness Initiative (ZEVAI) by Natural Resources Canada (NRCan) supports projects that aim to increase awareness, knowledge, and public confidence in zero-emission vehicles (ZEVs) and public charging and refueling infrastructure. The ZEVAI helps fund outreach, education, and capacity-building activities, ultimately enabling greater adoption of ZEVs by Canadians in all regions of the country.

Under ZEVAI, NRCan is calling for proposals to support education and awareness projects that increase awareness, knowledge, and understanding about the opportunities, benefits and considerations of ZEVs and clean fuels related to three areas of focus:

1. Light-duty zero-emission vehicles (LDVs) that weigh under 8,500 lbs, including electric cars, trucks, SUVs, micro-mobility solutions (e-scooters, e-bikes), and charging infrastructure.
2. Medium- and heavy-duty vehicles (MHDVs) over 8,500 lb, like electric trucks, buses, and hydrogen-powered vehicles, plus natural gas, retrofits, assessments, and smart logistics.
3. Clean fuel types and technologies for all sectors: biofuels, hydrogen, synthetic fuels, and renewable natural gas.

Financial support under this project will be up to 75% of total project costs, to a maximum of \$150,000 (1-year projects) and \$300,000 (2-year projects). Eligible costs include salaries; professional services; reasonable travel costs; capital expenses on informatics and equipment (not on the purchase of vehicles); retrofitting and upgrading of existing capital assets; license fees and permits; and honorariums and ceremonial costs for Indigenous recipients.

The application deadline is September 26, 2023. One-year projects will have an end date no later than March 31, 2025, and two-year projects will have end date no later than March 31, 2026.

Details of the call for proposal can be found [here](#).

Proposed ZEV Adoption Education & Awareness in Saskatoon Project

Administration is proposing to submit an application for ZEVAI funding for the ZEV Adoption Education & Awareness in Saskatoon Project, which would involve conducting outreach and developing educational initiatives, awareness campaigns, and capacity-building programs on ZEV adoption. These initiatives will cater to the entire community, with specific features tailored to promote adoption in the multi-unit residential building sector, with specific considerations for diversity, equity, and inclusion.

The total project cost is expected to be \$150,000 with the City's contribution of 25% costing \$40,000. This will be paid through existing funding in the EV Adoption Roadmap project -P.10015.

The project will aim to address the limited awareness and confidence in zero-emission vehicles, combined with insufficient charging infrastructure that is hindering broad uptake of ZEVs. This poses a particular challenge for people residing in multi-unit buildings, who face obstacles in accessing parking spaces and sufficient electrical capacity for charging electric vehicles.

The project's education and outreach activities will be designed based on the following gap-analysis and considerations:

Age Gap in EV Interest

A survey conducted by NRCan confirmed that individuals considering purchasing/leasing a ZEV decline with age. The older population has comparatively more skeptical attitudes toward the benefits of EV technology and lower confidence in their ability to learn about and use ZEVs and charging technology. The average age of Saskatoon's population is around 40 years, with more than 15% of the population being 65 years and above.

Language Barriers

The information about ZEVs and charging stations contains technical jargon which can disengage readers who are not well-versed in these terms. To capture broader interest, it is essential to communicate in a clear and straightforward manner, both in English and other widely spoken languages. Although English is extensively spoken throughout the city and holds official status, it is not the native language for many indigenous and immigrant communities. Notably, Cree and Dene are the predominant indigenous languages spoken in the city, while other immigrant languages like Mandarin, Punjabi, Gujarati, Spanish, German, and Tagalog are also actively used by various communities in Saskatoon.

Residents of MURBs: Owners and Renters

Installing charging stations in Multi-Unit Residential Buildings (MURBs) presents several challenges, such as limited parking space and the need for collective endorsement due to shared ownership. Residents of MURBs constitute a significant portion of the population, facing obstacles to home charging. They may rely more on public charging to transition to EVs. In Saskatoon, MURBs account for around 40 percent of housing.

Renters in MURBs tend to be more hesitant about adopting Zero-Emission Vehicles (ZEVs) as they don't own the property. Often, they need to secure permission from property owners to install home chargers. The solutions developed for renters can extend to those in single-family homes, as this issue applies to them as well.

This consideration for MURBs aligns with the ongoing programs like the [Industrial, Commercial, and Institutional \(ICI\) Building and MURB Energy Retrofit Program](#) and [supporting energy efficiency in low-income rental housing](#) under Research Junction. A survey conducted for the ICI energy retrofit program has revealed that residents of MURBs exhibit the highest level of interest in energy retrofit measures. Among the various retrofit options presented, electric vehicle charging stations were chosen by 20% of the respondents.

Information Barriers, Misconceptions and Range Anxiety

There are several misconceptions regarding ZEVs, such as the belief that they do not perform well in cold weather and that they are much more expensive than internal combustion engine (ICE) vehicles. Limited information regarding battery performance and lifespan also hinders the decision to adopt ZEVs. Many drivers who frequently travel long distances are uncertain about the availability of charging stations along their routes. Consequently, they are skeptical about adopting ZEVs.

Due to the gaps listed above, some of the audiences are more vulnerable to impacts of these barriers. These misconceptions can be addressed using clear and easily understandable language in awareness and educational efforts. To address range anxiety, providing map-based route plans for EVs with charging station locations can help alleviate concerns.

The above-mentioned gaps will be considered when designing initiatives, including:

- Media awareness campaigns across multiple platforms targeted at diverse demographics to provide accurate information that can aid prospective owners in decision-making;
- Educational messaging in multiple languages to engage various demographic groups;
- Interactive tools to visualize the experience of driving ZEVs;
- Online information hubs and FAQs that can help address misconceptions by promoting accurate information; and
- Workshops and curriculum development in partnership with NGOs, community-based organizations, and academia.

As the outcome, the project seeks to heighten community awareness, increase charging infrastructure utilization, foster collaborative partnerships, and accelerate ZEV adoption while continually measuring and reporting on DEI-related key performance indicators to gauge project impacts and outcomes.

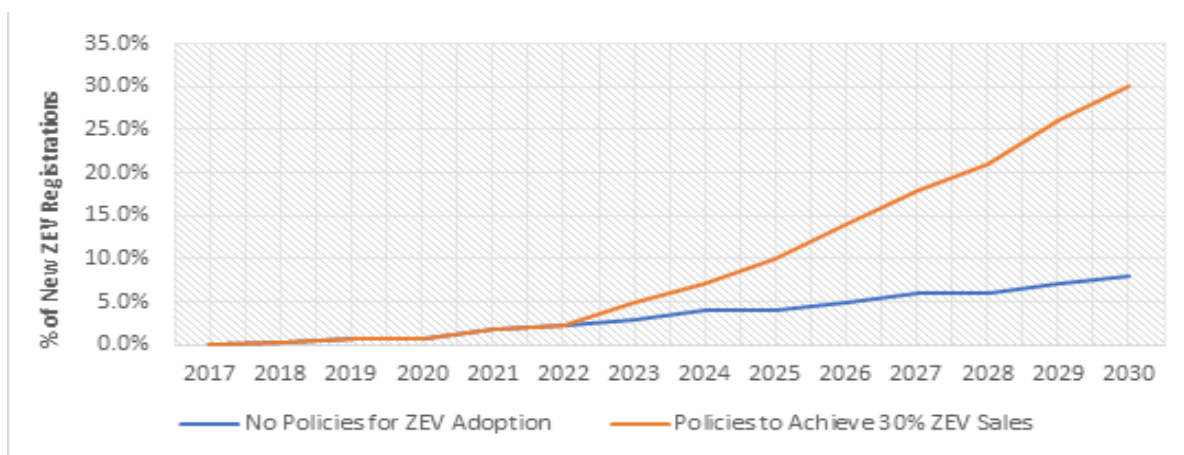
Alignment with Ongoing Program and Low Emissions Community (LEC) Plan

- The Home Energy Loan Program (HELP), which supports the installation of charging stations as energy retrofits in single-family homes to encourage ZEV adoption.
- The ICI energy efficiency program is currently being developed with approaches to promote the installation of charging stations as energy retrofits in commercial and MURBs to encourage ZEV adoption. Among respondents to the ICI building energy retrofit survey, 20% chose EV charging stations as the preferred retrofit measure.
- Two public electric vehicle charging stations have been installed at Lakewood and Lawson Civic Centres. These stations will be available for free during a pilot period from May 2023 to May 2025.
- A ZEV Adoption Roadmap for Saskatoon is currently being developed. This roadmap will recommend feasible strategies to encourage ZEV adoption in the community and corporate sectors.

The project will also help in achieving the target set in the Low Emissions Community (LEC) Plan. The LEC plan includes Action 21, which focuses on electrifying personal vehicles through incentive programs, education, and automotive dealer partnerships. The targets set for Action 21 in the LEC Plan are as follows: 30% of all new vehicle sales to be electric by 2030 and 90% of all new vehicle sales to be electric by 2050. The LEC model estimated that implementing this action would result in a cumulative reduction of 2,756,000 tonnes of CO₂e emissions by 2050.

Figure 1 shows the growth rates of new ZEV registrations if few enabling policies or programs are enacted at provincial and municipal levels compared to the 30% ZEV target from the LEC Plan. If no new policies or incentives are enacted and sales grow at a similar rate, ZEVs may only represent about 8% of total vehicle sales by 2030, a significant gap from the target.

Figure 1- Comparison of ZEV sales



The current trend of sales percentage is estimated as explained below:

Based on the 2021 Canada Population Census, the City of Saskatoon constitutes around 28% of Saskatchewan's population within its census metropolitan area. However, due to the availability of new motor vehicle registration data only at the provincial level from Statistics Canada, an estimation of the ZEV adoption rate for Saskatoon was derived as 28% of the overall annual new motor vehicle registrations in the province.

Table 1 – Estimated percentage of new ZEV registrations for Saskatoon

Year	Saskatchewan New Motor Vehicle Registrations	Saskatoon Estimates for New Motor Vehicle Registrations (28%)	Saskatoon New ZEV Registrations ²	% Of New Vehicles that are ZEVs
2017	56,525	15,844	18	0.1%
2018	52,267	14,635	47	0.3%
2019	49,328	13,812	84	0.6%
2020	44,684	12,512	89	0.7%
2021	44,839	12,555	225	1.8%
2022	42,873	12,004	265	2.2%

This indicates that the current demand for ZEVs in Saskatoon is low. Consequently, significant efforts are needed for education, awareness initiatives, and policy implementation to bridge this gap and achieve the 30% ZEV sales target by 2030. The proposed project will contribute to these efforts.

Meeting Merit Criteria under Funding Application

NRCAN will score the application on the following criteria:

- Project objective aligned with NRCAN's objective (15 points) - The project would encourage the adoption of light-duty vehicles by the community and the City.
- Targeted audiences (10 points) - Saskatoon has none or less organizations that has received ZEVAI funding. Hence, this application offers a unique audience and geography. The primary targets include residents of MURBs, renters, the elderly population, and individuals who speak languages other than English. This focus is aligned with the principles of Diversity, Equity, and Inclusion.
- Benefits of the Project (10 Points) - The benefits of the project will be measured by:
 - KPIs set for communications through a number of website views, social media interactions, online ad views, and a variety and number of communication materials;
 - Increase in EVs purchased in Saskatoon; New charging stations installed; and
 - Improvement in public understanding and perception of electric vehicles, either anecdotally through media interactions, demonstrated support by City Councillors and community leaders, or through future survey(s).
- Project activities and timelines (15 points) - The anticipated start date of the project is April 1, 2024, and will be completed no later than March 31, 2026.
- Capacity to deliver the project (15 points) - The City has several awareness programs and campaigns that have won awards and appreciation (Respect Work Zone, #BYXE, Recycle Clean Recycle Right).
- Risk Mitigation (10 points) - Risk mitigation will be developed using City's Project management Framework.
- Reach and Impact Regarding Diversity, Equity, and Inclusion (10 points).
- Participation from Indigenous organizations and Benefits to Indigenous Audiences (5 points).
- Involvement of Partners and Collaborators (10 points) – the City is proposing partnerships with associations, subject matter experts, and cooperatives that promote ZEV adoptions and academia to explore opportunities for developing short curricula or courses on ZEVs.