

<b>To:</b>	Warden Milne and Members of Grey County Council
<b>Committee Date:</b>	September 28, 2023
<b>Subject / Report No:</b>	CAOR-CW-16-23
<b>Title:</b>	EV Charging Infrastructure and Clean Fuels
<b>Prepared by:</b>	Rebecca Danard
<b>Reviewed by:</b>	Randy Scherzer
<b>Lower Tier(s) Affected:</b>	
<b>Status:</b>	

## Recommendation

1. That report CAOR-CW-16-23 regarding the installation of electric vehicle chargers (EV) to support light-duty EV fleet vehicles be received; and
2. That staff be directed to apply to the Natural Resources Canada (NRCan) Zero Emission Vehicle Infrastructure Program (ZEVIP) that would cover up to 50% of the costs to install twenty EV chargers with the County's matching funds of \$100,000 being considered in the 2024 budget.; and
3. That Council support the grant application to NRCan's Education and Awareness project stream to support a conference style event, in partnership with other community partners, that would explore use of hydrogen and other clean fuels for zero-emission vehicles; and
4. That the County's contribution for the event of up to \$12,400 be included in the draft 2024 budget, to be funded from anticipated savings in the 2023 budget.

## Executive Summary

The purpose of this report is to seek direction from County Council to allocate matching funds for a grant application from Natural Resources Canada (NRCan): Zero Emission Vehicle Infrastructure Program (ZEVIP), and to provide an update on a partnership grant application to the Education and Awareness Project Stream. The ZEVIP application would support the installation of a total of 20 Level 2 electric vehicle chargers at the County's transportation depots and administration building. In April 2022, Grey County Council declared a climate emergency and adopted the Climate Change Action Plan. Staff are preparing for the County to begin transitioning to zero-emission vehicles to meet our corporate reduction targets. The installation

of EV charging infrastructure is a necessary first step towards the future acquisition of light-duty electric vehicles for the County's fleet.

This report also provides an update regarding a grant application that has been submitted to the NRCan Awareness Project Stream to support a potential conference-style event about hydrogen and other clean fuels, in partnership with other community partners.

## Background and Discussion

### Scope

Level 2 charging infrastructure at the Transportation Services depots and the county administration building will provide charging capability for electric cars, SUVs and pick-up trucks. Fourteen of the chargers will be located at the Transportation Services depots and would support future light-duty EV fleet. Six chargers will be at the Grey County Administration building with 2 of the chargers supporting fleet vehicles and 4 chargers available for staff and the public. This will be a pilot of non-fleet charging so staff can better understand how these chargers are used by staff and the public. The results of this pilot project will help to determine policy and infrastructure requirements for public charging in other locations such as Grey Roots and Sydenham Campus.

### Alignment with Climate Change Action Plan

This project supports Corporate Action 8: Zero Emission Fleet Vehicle Adoption outlined in “Going Green in Grey.” Fleet and equipment account for 24% of municipal energy spending and 38% of municipal GHG emissions. Due to the long lifespan of County vehicles (7 to 12 years), it is recommended that the County begin the transition to zero-emission vehicles as soon as possible to meet our corporate reduction targets which are 20% by 2026, 40% by 2030, 55% by 2035, 70% by 2040 and net-zero by 2045.

### Vehicles

Transportation Services continues to research light-duty electric vehicles. Pricing, performance, battery life and variations between manufacturers are continually changing. It is anticipated that in 2025 Transportation staff would have sufficient information to make recommendations to council about pilot project to purchase electric vehicles (likely two) to test and provide transportation staff with EV knowledge.

During the pilot project, staff will investigate the ability of electric vehicles to satisfy the operational needs of the Transportation Services department, including:

- Seasonal battery life
- Stationary battery life
- Maintenance costs
- Charging time consumption
- Charging costs
- Measured emissions reduction
- Seasonal mileage (temperature fluctuations)

- Best application usage for an electric vehicle

Staff are also reviewing options for heavy-duty vehicles, including hydrogen fueled vehicles.

## Charging Infrastructure

The report “Grey County Electric Vehicle Chargers – Assessment of Electrical Infrastructure” prepared by AECOM in February 2023 outlines some options for installing EV charging infrastructure. The first option includes both Level 2 and Level 3 chargers. This scenario would require service upgrades in all of the Transportation Services depots to meet the long-term needs of a fully electric fleet. Level 2 chargers can be installed at the County depots and the County administration building without the need for electrical upgrades and therefore can be pursued as an initial step. Electrical upgrades will be required to support Level 3 fast chargers which will be investigated further by staff.

The initial plan staff are proposing (Table 1) installs Level 2 chargers in locations that do not require electrical upgrades and that would support light-duty fleet that do not require fast chargers. Once Transportation Services staff have experience using the Level 2 chargers, recommendations could be made whether to install more Level 2’s, upgrade the electrical service and install Level 3’s, or consider other zero emission vehicle solutions such as hydrogen fuel.

*Table 2: Proposed EV charging infrastructure*

Site #	Site Name	Service Capacity (kW)	Existing Building Load (kW)	Current Headroom (kW)	# of Level 2 Chargers	EV load (kW)	Remaining Headroom (kW)
2	Ayton Depot	76.80	50.00	26.80	2	14.4	12.6
6,7	Chatsworth Depot	115.20	60.00	55.20	6	43.2	12.6
12	Clarksburg Depot	115.20	60.00	55.20	6	43.2	12.6
	Grey County Admin Building	498.8	268	230.83	6	43.2	187.6

## ZEVIP Funding

The County can potentially offset some of the cost of installing the chargers by applying to ZEVIP funding from NRCan. The application is not currently open, but an intake is scheduled to open in the fall of 2023. NRCan will fund 50% of Level 2 chargers up to \$5,000 per charger for a total of \$100,000 (a double head charger counts as 2 as long as both heads can be used at the same time). The funding program requires a matching County contribution. Eligible costs include staff time, professional fees, capital equipment, installation labour, licenses etc. Grey County’s project needs to include a minimum of 20 chargers to apply. Once the funding

application is approved, the County has 30 months to complete the project. Should the grant application be unsuccessful staff would re-evaluate the charging infrastructure strategy and would bring forward a proposal to install fewer chargers in fewer locations to decrease the project budget.

## Procurement

Staff are recommending having one organization manage the entire project including sourcing the chargers, installing them, and maintaining them. There are a number of businesses that do this; staff would select one through an RFP process. In the future, Transportation Services and other county staff may have the expertise to source, maintain and perhaps even install chargers, but a turn-key solution is recommended for the first project. Staff will develop the RFP after the County secures ZEVIP funding.

## Bringing in Member Municipalities

The County would like to offer the lower tier municipalities the opportunity to ‘piggyback’ on our ZEVIP application if they have shovel ready projects. To be included in the funding application the member municipality would need:

- Approval from their Council for all expenses not covered by ZEVIP funding.
- Technical assessment for their proposed site which shows that the project is feasible.
- Willingness to be included in the County’s procurement process so we can use one contractor for the whole project.

As the County transitions to a fully zero-emission fleet, we will need to expand and/or upgrade our charging capacity. If the member municipalities are eager to collaborate with the County on a ZEVIP application, but are not yet ready to do so, they may be able to join a future project.

## Hydrogen Education and Awareness

An application has been submitted to NRCan’s Education and Awareness Clean Fuels stream. The purpose of this funding is to support projects that address awareness and knowledge gaps among Canadians and industry on all clean fuel types and clean fuel technologies across all industries, commercial applications and the general public.

The project being proposed would be a conference style event that brings together private and public sector staff, researchers, and innovators to understand the potential opportunities and challenges of the hydrogen fuel system. The event will be modelled after the [“Mines to Mobility Conference”](#) hosted by the City of Greater Sudbury. Staff have had initial conversations with potential partners including Georgian College, the Nuclear Innovation Institute, Organization of Canadian Nuclear Industries, Hydrogen Optimized, and the City of Owen Sound. Staff are in the process of outreach to Bruce and Huron Counties, The Saugeen Ojibway Nation, and other private sector organizations.

The NRCan funding provides up to 75% of Total Project Costs, to a maximum of \$150,000 for one-year projects. Grey County’s partnership contribution towards this event can be funded from unspent funds in the 2023 Climate Change budget available for use in 2024. The timeline for the NRCan funding is as follows:

- Closing of the Call for Proposals      September 26, 2023
- Assessment of proposals      September – November 2023
- Funding decisions, letters of conditional approval (LOCA) and letters of regret – Fall 2023
- Negotiation and signature of contribution agreements      Fall - Winter 2023
- Project start date – April 1, 2024
- Project completion date (1 year project)      No later than March 31, 2025.

## Financial and Resource Implications

NRCan’s ZEVIP program will contribute 50% for project costs to a maximum of \$5,000 per Level 2 charger. The table below identifies the anticipated project costs for installing the 20 Level 2 chargers. It is recommended that the County’s contribution of \$100,000 be included in the 2024 budget for consideration.

*Table 3: Charging Project Budget*

	# of Chargers	NRCan Contribution	Grey County Contribution	Source	Total
Depot Chargers (Transportation)	14	\$70,000	\$70,000	Facilities – Depots and Domes Reserve	\$140,000
Admin Building Chargers (Property)	6	\$30,000	\$30,000	Administration Building Reserves	\$60,000
<b>TOTAL</b>	<b>20</b>	<b>\$100,000</b>	<b>\$100,000</b>		<b>\$200,000</b>

If the ZEVIP application is unsuccessful, staff would reconsider the charging infrastructure plan. Perhaps waiting and submitting another application to ZEVIP based on the feedback from the funder and/or installing fewer chargers in fewer locations. The lifespan of the chargers is 10-12 years. At that point, more advanced chargers will likely be available, so the old chargers should be replaced. Charging equipment generally has a 1-3 year warranty from the manufacturer. Based on information available about home-based chargers, \$500/charger/year should be budgeted for maintenance after the warranty expires. Warranty and ongoing maintenance terms will be included in the RFP for this project. Ongoing maintenance costs may be offset if the County implements fees on public chargers.

Matching funds for the Education and Awareness application (\$12,400) was already allocated to Accelerating Zero Emissions Vehicle in the 2023 Climate Change budget. This money will be unspent because the Regional EV Charging Network project attracted more partners than expected which reduced the financial contribution from each municipality. With a 75% match from NRCan this project has a maximum budget of \$49,600. The County’s contribution in the proposed 2024 budget towards this project may decrease if partners are able to contribute financial resources and once the final costs for this event have been determined. The project

will not require a levy contribution as unspent funds from the 2023 budget are proposed to be transferred to reserve for use in 2024.

## Relevant Consultation

- Internal - Transportation Services, Finance, Housing
  - AODA Compliance (describe)
  - Contribution to Climate Change Action Plan Targets (Corporate Action 8: Zero Emission Fleet Vehicle Adoption)
- External (list)

## Appendices and Attachments

[Long-term EV and Charging Needs](#)

[Current Electrical Capacity.](#)