

Subject: Electric Vehicle Fleet Transition

Department: Infrastructure Services

Division: Environment

Report #: INS-2020-005

Meeting Date: 2020-11-23

Recommendations

That report INS-2020-005, Electric Vehicle Fleet Transition be received.

Background

The Federal Government has identified the electrification of Canada's transportation sector as being a key step in transitioning to a low-carbon future. This has been demonstrated through the ambitious federal targets set for electric vehicle (EV) sales, reaching 10% of light-duty vehicle sales by 2025; 30% by 2030; and 100% by 2040 (NRCan, 2019).

At a provincial level, the transportation sector is the single-largest source of greenhouse gas (GHG) emissions in Ontario, representing 35% of total emissions (Ministry of the Environment, Conservation and Parks, 2019). Municipalities across the province have started to incorporate EVs into their municipal fleets to support provincial and federal targets, while reducing corporate emissions and saving on operating costs.

Earlier this year, the Town partnered with Dufferin County on a funding application for the installation of EV charging stations for fleet vehicle use through the Zero Emission Vehicle Infrastructure Program. The Town proposed three (3) dual Level-2 charging stations – six (6) total connectors for fleet vehicle usage. Two (2) dual Level-2 stations were proposed to be installed at the Operations Centre and one (1) dual Level-2 station was proposed to be installed at the staff parking lot at Town Hall. To make use of the EV charging stations, staff have included the purchase of EV's in the draft 2021 Capital Budget forecast. Specifically, the six cars that are used by Building, By-law and Transportation & Development staff are currently scheduled for replacement in 2022. The budget forecast has been modified to identified that these cars are to be replaced with EV's.

With the submission of the Town's grant application, some of the opportunities and potential challenges associated with transitioning the Town's fleet vehicles to electric were raised by staff and Council. In response to inquiries raised, this report includes an overview of the requirements, costs and potential benefits that would come with transitioning the Town's Corporate fleet to EVs (see Attachment No. 1 for details).

Analysis

The Town of Orangeville relies on its fleet of vehicles to maintain roads and sidewalks, provide bylaw enforcement, manage water and wastewater services, keep park areas and facilities maintained and provide many other services across the community. These vehicles are essential; however, existing fleet operations generate GHG emissions and the Town has started to investigate options to minimize this source of corporate emissions.

The Town has recognized the importance of reducing local GHG emissions through its commitments to the Partners for Climate Protection (PCP) program and the Global Covenant of Mayors for Climate and Energy (GCoM). Additionally, the endorsement of the Town's Sustainable Neighbourhood Action Plan (SNAP) committed to encouraging emission reductions across the corporation and community. The Town's 2016 corporate GHG emission inventory reveals that fleet vehicles are responsible for 24% of the Town's total emissions. In order to reduce corporate GHG emissions and save on operating costs, it is recommended that the Town considers measures to begin transitioning its own fleet vehicles to electric alternatives, starting with light-duty vehicles.

In addition to the GHG reduction benefits of EVs, there are also cost-saving opportunities that come with transitioning fleet vehicles to electric. The cost to operate an EV is significantly less than a conventional internal combustion engine vehicle. An operating cost saving of approximately 70% through fuel and maintenance savings is expected for each fleet vehicle, considering the average mileage of Orangeville's light-duty vehicles. Operational cost impacts of EVs will be further minimized by charging vehicles overnight during off-peak time of use periods when electricity costs are lowest.

At this point the capital costs of purchasing an EV over a conventional internal combustion engine vehicle outweigh the savings in operating costs based on the mileage and life cycle of existing Town vehicles. However, it is expected that the cost of purchasing an EV will be comparable or even lower than a gasoline-fueled car by 2025 due to declining battery prices. Additionally, to meet provincial and federal targets, various incentives and grant programs currently exist to help cover the increased capital cost.

It is important to note that other benefits associated with EVs align with other corporate goals and priorities by contributing to cleaner air, reducing noise pollution, introducing resiliency into the Town's fleet and supporting local markets.

With prices becoming more comparable, along with the environmental and social benefits of EVs, projections indicate a rapid increase in EV sales in Ontario over the next decade. The Town should consider beginning to transition their fleet vehicles to electric in order to maintain and elevate the quality of fleet operations, reduce long-term fleet expenses and fulfill environmental commitments. Adopting a long-term approach that advances the Town towards a more efficient and resilient fleet begins with evaluating alternative options upon the replacement of existing fleet vehicles.

Strategic Alignment

Orangeville Forward – Strategic Plan

Priority Area: Sustainable Infrastructure

Objective: Support Innovation

Sustainable Neighbourhood Action Plan

Theme: Transportation System

Strategy: Promote a shift to more sustainable and efficient transportation options to move people and goods

Notice Provisions

None.

Financial Impact

The purchase and installation of three (3) dual Level-2 charging stations has been included in the draft 2021 Capital Budget. The total cost is anticipated to be \$60,000, of which \$30,000 may be funded by the Zero Emission Vehicle Infrastructure Program grant program. Additionally, the Divisions (Transportation and Development, Buildings and By-Law) that have increased the budget forecast for vehicle replacements in 2022 by approximately \$15,000 to cover the additional capital cost of EV's. A decline in operating and fuel costs has been carried in the draft Operating Budget forecast following the purchase of the EV's.

Respectfully submitted:
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