




Urban Planning Committee

September 28, 2016

Item 7.3: Electric Car Charging Stations

Item 6.9: Opportunities to Expand Edmonton's Electric Vehicle Charging Station Network



Item 7.3 INQUIRY

At the June 28, 2016, City Council meeting, Councillor M. Walters made the following inquiry:

Can Administration provide a report on the role municipalities can play in encouraging the proliferation of electric car charging stations through incentives, partnerships or legislatively, and is any information available to us about what other cities have done to encourage increased provision of electric car charging stations and to what degree those efforts have been successful?



Item 7.3 BACKGROUND

- In Edmonton, the movement of people and goods accounts for 42% of energy consumption and 30% of GHG emissions.
- 20,000 EV's are registered in Canada (96% of these in QC, ON, BC).
- 500 EV's are registered in Alberta, with 160 in Edmonton.
- GHG benefits from electric vehicles (EV) are most significant when the electricity grid is powered by renewable energy.
- Recently, the Province set a firm target: *“30% of electricity used in Alberta will come from renewable sources such as wind, hydro and solar by 2030.”*



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LEADING PROGRAMS IN CANADA

- Progress on EV adoption is greatest in jurisdictions with strong provincial EV programs, i.e., Québec, Ontario and BC.
- Ontario, British Columbia and Quebec all offer provincial EV purchase rebate programs and have programs to support EV charging infrastructure installation.
- Large municipalities in these provinces, including Toronto, Montreal and Vancouver, have created complementary programs.
- Programs primarily aimed at increasing adoption of EV's that require electric charging, as opposed to non-plug in hybrids.



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Charging Station Types

- Level I stations typically for homes, 8-hour charge time for uncharged battery, capital cost \$500.
- Level II stations, 4-hour charge time, capital cost \$10,000.
- Level III quick charge stations, ½-hour charge time, capital cost \$100,000.
- Potential need for 550 publicly accessible Level II and 100 level III charging stations in Edmonton.
- Vast majority of EV charging occurs at homes and workplaces.
- Network of EV charging stations helps reduce 'range anxiety' and support social change towards EV adoption.



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Current Actions

Administration has:

- Advised the province, via Alberta's Energy Efficiency Advisory Panel, to pursue:
 - (a) rebates for the purchase of new zero-emission vehicles and
 - (b) rebates for the installation of electric vehicle charging stations.
- Started work on an Electric Vehicle Strategy for Edmonton.
- Submitted a matching-fund proposal to Natural Resources Canada for a pilot project to evaluate an EV charging station network in Edmonton.



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Pilot Project: EV Charging Network

- Administration is proposing a pilot project to evaluate feasibility of a small scale, publicly-accessible, EV charging station network in Edmonton.
- Goals of the pilot would be to evaluate:
 - a) Reliability and operations of the charging stations,
 - b) Importance of a publicly-accessible EV charging network in encouraging the ownership of EV's in Edmonton,
 - c) Ownership and partnership approaches.



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Pilot Project: Funding

- Pilot timing, 2017-2018, coincides with existing opportunity for matching funding from Natural Resources Canada.
- Application submitted requested \$1.2 million from Natural Resources Canada, to be matched equally by the City of Edmonton
- \$850,000 in operating funding and \$350,000 in capital funding from the Green Fleet Fund.
- Following approval from Committee, Administration would proceed with development of project plan and submit unfunded service package and capital profile as part of the fall 2016 Supplemental Operating and Capital Budget Adjustment process.
- Notice from NRCan of award on the application will be in October.