

# REVVING UP



Maryam Mirza

As the province promotes access to electric car charging stations, the City of Markham has introduced its own pilot project to encourage drivers to switch from gas-operated vehicles.

The Markham project differs from initiatives in other municipalities by including an energy management system that minimizes peak-hour electricity demand while charging electric vehicles.

The technology reads signals from the building and determines how much electricity is being drawn by the meter. As electricity usage reaches a peak, the technology is programmed to slow down the charge down, turn it off or speed it back up.

The city's pilot, with 16 charging stations located at the Markham civic centre, received funding from the IESO Conservation Fund and the federal government's Natural Resources department to promote workplace accessibility to electric vehicle charging stations.

"What's going to come from this [pilot project] is a lot of information for consumers, for employers and certainly for many segments of the electrical industry that will position us to be ready for when more

employers provide EV stations at their work," Markham Mayor Frank Scarpitti told *NRU*.

With the provision of charging stations at an easy-to-reach location, the pilot project seeks to ease "battery range anxiety" for drivers who fear they may not find a place to recharge their electric vehicles.

Markham officials say the pilot is the first of its kind for the use of an energy management system to manage demand on the electricity grid.

"The electricity system, much like a road system, is designed for peak usage, as are buildings," Markham director of sustainability and asset management Graham Seaman told *NRU*. Minimizing peak-demand usage of electricity over the course of a month

can yield energy savings in large buildings and reduce greenhouse gas emissions, he said.

Municipalities and others have responded to provincial moves to encourage electric vehicle usage as a sustainable transportation choice.

Through its a Climate Change Action Plan, the province committed \$5-million for a Workplace Electric Vehicle Charging Incentive Program to encourage workplaces, building owners and building managers to install electric vehicle charging stations for employees.

The program proved so popular that the funds were fully allocated as of last month.

Currently, 300 electric vehicle charging stations are

located in Ontario, with the province setting a target of 500 stations by 2020, through subsidies offered through its Electric Vehicle Chargers Ontario grant program.

Environmental Defence Fund clean economy program manager Sarah Buchanan told *NRU* that transportation is a major source of emissions in Ontario, accounting for 35 per cent of 167 megatonnes of greenhouse gas emissions, based on a report released by Ontario in 2012. She says the province, which currently aims to have electric vehicles make up five per cent of vehicles on the road by 2020, should set a more ambitious goal.

"We have to think beyond 2020, to 2030, to 2050," Buchanan says. "How are we going to drive that greater level of adoption and bigger modal shift in how people move around? [The goal of] five per cent [presence of electric cars on the road] is still quite low — what we need [is to get the word] out that 100 per cent of the vehicles on the road need to be low-carbon vehicles."

One barrier to higher

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An electric vehicle charging station at Markham Civic Centre

SOURCE: CITY OF MARKHAM

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electric car usage is a shortage of electric vehicle charging infrastructure, according to Buchanan. **SWTCH**, a company that provides electric vehicle charging management solutions in the Greater Toronto and Hamilton Area, estimates that more than five million of the 37million electric vehicles expected on the road by 2025 will not have access to home charging.

“One of the problems is that there are a lot of buildings still standing that don’t have charging infrastructure,” Buchanan said.

This year, the province revised the Ontario Building Code to require detached, semi-detached and row homes to be equipped with a level 2 charging station — equivalent to the voltage of a hair dryer.

Proposed changes to the provincial *Condominium Act* would lower the level of consent required for condo owners to exchange regular parking spots for those used by electric vehicles and require condo boards to approve installation of charging stations. The proposed changes would also permit the use of condo corporation reserve fund to support charging station installations and require installation of two electric vehicle charging stations when requested by owners. The regulatory changes have not been approved yet.

Buchanan says electric vehicle owners who live in older condos face challenges to having a building retrofitted for charging infrastructure.

“They have to go through their condo board, it’s expensive, and they might not have the capacity,” she said. “It’s good to see that the city has started to do this pilot project and research this.”

Buchanan urges municipalities and developers to think creatively about providing charging infrastructure in urban spaces.

“Every single person doesn’t need their own charging station, at every hour of the day. We need to think about how we can effectively share the infrastructure that is there.”

The pilot project will be releasing information in 2019, but data is available through the staff at any time, upon request. 🌱



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