

Pilot Program: Electric Vehicle Charging Stations

MGE has a pilot demonstration program to install a new public network of five electric vehicle charging stations. Customers with plug-in electric vehicles will be able to charge their cars at these stations, located at convenient places around our community. As part of the pilot program, MGE is allocating electricity made from wind power for use in charging vehicles at these stations.

We have taken this step to learn more about what is needed to support electric vehicles as they become more common. Today, there are few electric vehicles and even fewer plug-in electric vehicles. However, it is estimated that these could make up about 35% of all new vehicles sold by 2020 (Electric Power Research Institute). And, there is no equipment in place to charge these vehicles' batteries in public places. In the future, these stations will allow drivers to extend the range of their vehicles without charging at home or at work.



This increased use of electric vehicles will impact electric utilities and the infrastructure for providing electricity to customers. MGE is installing these charging stations to understand these impacts. They will help us to understand such things as how this infrastructure works, how consumers want to use them, driving and charging patterns, and interconnection with the electricity grid.

When and where will they be installed?

The first station should be in place and operating later this summer. And, all five stations are planned for operation by early next year.

MGE has not yet determined the specific locations. They will be in the MGE electric service area at destinations where there is significant vehicle traffic and public parking access.

How can the public get access to these stations?

MGE electric customers with plug-in electric vehicles will be able to apply to use these charging stations. More information will soon be available on MGE's Web site (www.mge.com/evcharging). For now, customers can sign up at this Web site to receive more information as it becomes available.

What is the technology?

MGE's charging stations are manufactured by Coulomb Technologies, Inc., a US-based company in California. Carbon Day Automotive, in Chicago, distributes and will service our charging stations. For more details about how these charging stations work, visit www.coulombtech.com.

What are the benefits of electric vehicles?

Use of electric vehicles can reduce the use of foreign sources of fuel and can reduce operating costs (costs less per mile for fuel). In the future, as the electric grid provides more renewable energy, it can also reduce the emissions associated with driving.

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How much electricity does it take to charge one vehicle's battery and how far can it be driven?

This can vary widely, depending on the type of vehicle and battery, as well as driving patterns. As an example, to drive a PHEV Toyota Prius in all-electric mode all the time, it would require about 5 kWh for each 30 miles driven.

How long can I remain at the charging station?

Vehicles vary in how long it takes to fully charge their batteries. And, it is not necessary to remain at the charging station until the battery is fully charged. The charging stations can be used to "top off" batteries while visiting the public places near the stations.

How many electric vehicles are there in our community now?

We estimate that there are roughly 25 electric vehicles in our community which could use these stations today.

How much electricity will each station provide?

If all five stations were used constantly (charging a battery 24 hours each day, 365 days each year), the electricity used in a year would equal about 50,000 kWh, the equivalent of annual use by seven average residential customer homes. This is about \$6,500 in electricity (at today's residential rates). However, actual use will be significantly less than that for this pilot program since there are currently few electric vehicles and charging at home is the most convenient option.

Will MGE be installing more?

This is a pilot program to allow us to learn about and test this new technology. We will use the information from the pilot to help determine our next steps with respect to this infrastructure.

How much does this project cost?

These charging stations and all the related costs to study this application will cost about \$10,000 for each charging station. All customers are sharing in the cost which is included in rates. MGE has an energy technology demonstrations program. The program also includes the solar PV demonstrations and the urban wind turbine. The information gained helps us better plan for meeting our customers' needs for safe, reliable, affordable and environmentally responsible energy resources.

For more information

More information about this project is available at www.mge.com/evcharging.