

HOW TO INSTALL ELECTRIC VEHICLE CHARGING STATIONS AT YOUR MULTI-UNIT DWELLING PROPERTY

Building Management



An initiative of:



Rahm Emanuel,
Mayor

Supported by:



Plug-in electric vehicles (PEVs) are moving into the fast lane in record numbers. In fact, by 2017, there will be more than one million PEVs on the road.¹ When you consider how sleek, silent, and fun PEVs are to drive—and that they help reduce pollution by nearly 75% over petroleum-powered vehicles—it's easy to see why the residents in your building are getting excited about them.



Photo courtesy USDOE
<http://images.nrel.gov/>

HELP YOUR RESIDENTS FUEL UP AT HOME

According to U.S. Department of Energy and ComEd, the home is the primary charging location for most PEV owners. In Chicago, where 69% of residents live in multi-unit dwellings (MUDs) like yours, providing a location to charge PEVs can be a big opportunity. That's why Mayor Emanuel and the City of Chicago in partnership with Chicago Area Clean Cities have launched Drive Electric Chicago to help PEV owners and their building managers find the best solution for making charging PEVs easy and cost-effective. You'll find plenty of information, tools, and resources that can help you take the first steps to providing an at-home charging solution for your residents online at www.DriveElectricChicago.org.

CONSIDER A PUBLIC CHARGING STATION

With demand for PEVs continuing to grow, many building managers are considering the installation of building-owned public charging stations. While the building pays for installation, the Illinois Department of Commerce and Economic Opportunity (DCEO) will refund up to 50% of the equipment and installation costs. Not only that, but you won't need to adjust your building's parking arrangements to accommodate individual PEV user charging needs. (Reserving a few spaces for PEV users near the public charging station is much easier! You can even help your residents coordinate their charging schedules.)

In addition, offering a public PEV charging station can increase the value of your building as well as enhance your building's reputation for being environmentally friendly.



¹ Navigant Research, "Electric Vehicle Market Forecasts," <http://www.navigantresearch.com/research/electric-vehicle-market-forecasts>

This material is based upon work supported by the Department of Energy under Award Number DE-EE0002541.

This report was prepared as an account of work sponsored by an agency of the United States Government. Neither the United States Government nor any agency thereof, nor any of their employees, makes any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights. Reference herein to any specific commercial product, process, or service by trade name, trademark, manufacturer, or otherwise does not necessarily constitute or imply its endorsement, recommendation, or favoring by the United States Government or any agency thereof. The views and opinions of authors expressed herein do not necessarily state or reflect those of the United States Government or any agency thereof.

DIFFERENT TYPES OF CHARGING STATIONS

There is considerable diversity in cost and electrical requirements among different types of charging options. Residential and public charging can be broadly separated into four groups:

Charging Station Type	Power Supply	Charge Time	Miles Gained From 1 Hour of Charge	Installation Cost	Equipment Cost	Impact on Environment
Level 1 Outlet	120V	6 to 18 hours	2 to 5 miles	\$0 to \$250	\$0 to \$1,000	1.2 kW (Equivalent to one toaster)
Level 1 Station	120V	6 to 18 hours	2 to 5 miles	\$1,000 to \$1,500	\$500 to \$700	1.9 kW (Equivalent to 1-1/2 toasters)
Level 2 Station (Resident & Public Charging Station)	208V to 240V	3 to 8 hours	10 to 20 miles	\$2,000 to \$10,000	\$400 to \$11,000	3.3 kW to 7.2 kW (Equivalent to 3 to 6 toasters)
Level 3 DC Fast Charging Station	Up to 480V	Less than 30 minutes	60 to 80 miles	Average approx. \$20,000	\$10,000 to \$50,000	35–50 kW (Equivalent to 42 toasters)

THE INSTALLATION PROCESS

- Determine charging needs of residents **1**
The building management or homeowners association may want to determine the level of interest in PEVs among residents before installing a public PEV charging station.
- Hire electrical contractor or public charging station manager **2**
Consult with an electrical contractor about existing circuitry, electrical capacity, and metering options in order to determine the charging station installation that best suits resident needs. All PEV charging station installers must be certified by the Illinois Commerce Commission to qualify for the State's rebate program.
- Consult with rebate program **3**
Consult State's EV Infrastructure Rebate Program for eligibility criteria.
- Notify local electric utility **4**
Contact the local electric utility. ComEd requests customers to contact them either online at its EV registration page or by calling 866-NEW-ELEC (866-639-3532).
- Choose charging station location **5**
Choose the location for the PEV charging stations. For buildings with open parking, you may want to designate spaces for PEV users. For buildings with reserved spaces, you may need to alter parking arrangements so that the PEV charging station is located as close as possible to spaces reserved for PEV users and to an electricity source.
- Obtain permit **6**
Obtain an electrical permit from the City of Chicago. Your electrical contractor can do this on your behalf. The City of Chicago offers an Easy Permit Process program, where permits can be processed within 1 day.
- Install outlet or charging station **7**
Have your contractor complete the installation. Your contractor should also arrange for the City of Chicago to inspect the new outlet after installation.

There's plenty of financial help available

Government Entity	Incentive type	Benefit	Rebate Source
Federal government	Electric vehicle	\$2,500 to \$7,500 tax credit, depending on battery size	IRS tax credit www.irs.gov
State of Illinois	Electric vehicle	80% rebate up to \$4,000	Illinois Green Fleets www.illinoisgreenfleets.org
State of Illinois	Charging station	Rebate of 50% of installation cost, up to \$3,000 per nonnetworked station	Electric Vehicles in Illinois www.illinois.gov/dceo
State of Illinois	Electric vehicle registration fee	Discount to \$18 for PEVs (compared with \$99 for a conventional car)	Secretary of State Vehicle Registration www.cyberdriveillinois.com

