



Getting Apartments and Condos Ready for Plug-in Electric Vehicle Charging

High plug-in electric vehicle adoption is expected in Florida

Thousands of Floridians have purchased plug-in electric vehicles (PEVs) already, and industry analysts predict the state will continue to have among the highest PEV registrations in the nation.

The majority of owners prefer to charge their PEVs at home

Most PEV drivers prefer the low cost and high convenience of charging at home – using a standard household outlet or a Level-2 charging station. It takes just a few seconds to plug in and there's no need to wait around while the car recharges.

Residents of multi-unit dwellings (MUDs) encounter unique challenges

PEV buyers who live in MUDs can face a number of roadblocks to gaining access to charging. There are numerous stakeholders involved and more complex physical structures, often with unique parking configurations. Since more than 40 percent of Southeast Florida's dwellings are MUDs, with particularly high concentrations in Miami-Dade and Broward Counties, this is an important challenge to address. However, if MUD charging issues cannot be overcome, residents might try encouraging their employer to provide workplace charging access.

Prepare your multi-unit dwelling – differentiate your property

With higher than average PEV adoption rates expected in Florida, it is time for MUDs to get prepared! Here's what you need to know:

Overcoming the five biggest barriers to PEV charging access at multi-unit dwellings

- 1. Gaining approval from building management and the homeowners' association**
 - » Set up an advisory committee of interested residents
 - » Reach out to experienced third-parties for help along the way. This includes residents of MUDs who have successfully implemented charging policies or PEV industry experts in your region, such as your local Clean Cities Coalition or FPL
- 2. Determining who is responsible for equipment and installation costs**
 - » Poll residents to gauge their PEV purchase intent and charging needs
 - Widespread interest may help justify the HOA or building management assuming the costs
 - Alternatively, the interested residents could pool their resources for a bundled installation
 - Lesser interest or significant opposition may indicate that it is best for the interested resident(s) to assume all costs

What's the appeal of PEVs?

1. Cost 80 percent less to operate
2. Release 70 percent fewer emissions
3. Help our nation achieve energy independence by drastically reducing oil consumption
4. They're FUN to drive – with quick, quiet and smooth acceleration, sophisticated displays and smart phone applications

Are PEVs practical?

Yes. Most people drive less than 40 miles per day, which is well within the range of today's electric vehicles. Or choose a plug-in hybrid electric vehicle and enjoy the benefits of driving electric – with the ability to extend your driving range by using gasoline.

Did you know?

Driving a PEV 1,000 miles per month and charging exclusively at home would impact an electric bill by about \$34, while reducing or eliminating gasoline consumption related expenses.

(\$0.10 per kWh, vehicle rated at 34kwh/100 miles)



- » Engage the services of a third-party electric vehicle service provider (EVSP) to avoid out-of-pocket installation and equipment costs
 - Instead, users would pay the EVSP per charging session, or by the kilowatt-hour consumed

3. Determining the most equitable payment system for electricity consumption

- » Connect charging station to the residents' existing electricity service meter. However, many MUD configurations may not allow this
- » Connect charging stations to the building's common area meter – devising a system to account for payment and usage
 - Bill users precisely for usage – through smart charging equipment or metering devices
 - Charge users a flat monthly fee for PEV charging – estimating usage
 - If an EVSP is selected for installation of charging equipment, users would pay the EVSP directly and the EVSP would reimburse the HOA or building management for electricity consumption

4. Planning the most cost-effective installations with the electricity capacity available

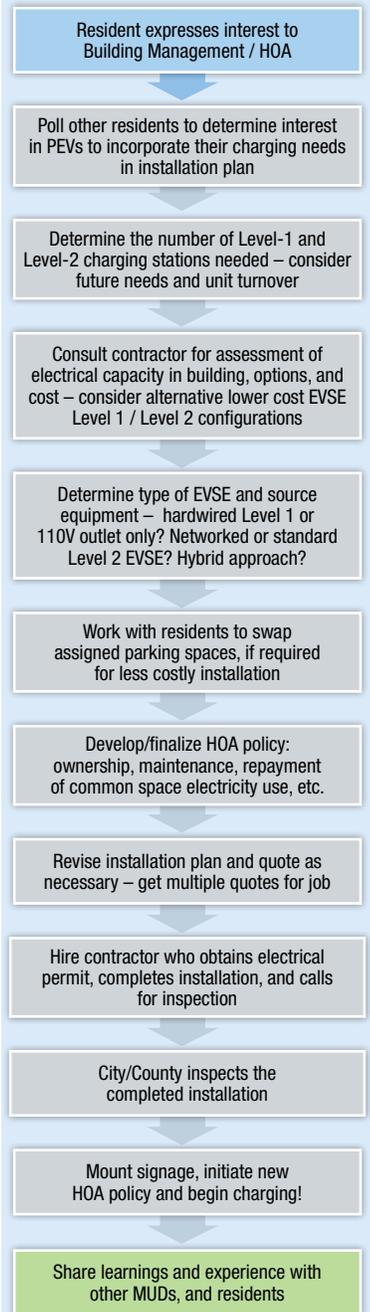
- » Install Level-1 charging to maximize the amount of charging stations that can be added with existing electrical capacity. Plus, Level-1 requires no additional equipment other than a 120-volt outlet
- » Consider a hybrid approach with Level-1 serving the needs of most residents, and one or two pay-per-use Level-2 charging stations available in common area parking spaces for residents and visitors
- » Look for ways to lower your building's overall electrical consumption, such as upgrading inefficient lighting, to free electrical panel capacity for PEV charging

5. Facilitating potential changes to assigned parking for lower cost installations

- » Reassign parking spaces, putting PEV charging as close as possible to the electrical panel to avoid prohibitively expensive installations
- » Alternatively, locate PEV parking spots in the MUD's shared spaces
- » Consider accessibility of PEV charging or disabled visitors and residents

Did you know?
 More and more PEV-owners are choosing Level-1 charging at home. That's because it's sufficient to charge a PEV overnight after a typical day's driving.

Approach for PEV Charging Policy and Installation at MUDs



Adapted from: Balmin, Judith; et al. (2012) "Increasing Electric Vehicle Charging Access in Multi-Unit Dwellings in Los Angeles." UCLA Luskin Center for Innovation and the UCLA Anderson School of Management. July 2012

Questions? For additional information about electric vehicles and charging at multi-unit dwellings:

Web: www.FPL.com/electricvehicles | www.DriveElectricFlorida.org

Email: electric-vehicles@FPL.com | Help@DriveElectricFlorida.org