

HOW DO MULTI-UNIT DWELLINGS BECOME PEV READY?

Over one-third of Californians live in rentals or multi-unit complexes. In San Francisco and Los Angeles over half the residents live in Multi-unit Dwellings (MuDs). Charging for multi-unit complexes is necessary for the success of PEVs.

KEY MESSAGES

- California is at the beginning of a major transition to fueling cars with electricity. Multi-unit Dwellings (apartments, condominiums, cooperatives, mobile home parks, or townhomes) need creative and innovative charging solutions.
- Leadership is important in solving the challenges of PEV charging. Home Owner Associations (HOAs), building owners and property managers will want to start getting PEV ready now.

INNOVATIVE CHARGING SOLUTIONS

Multi-unit Dwellings come in a variety of configurations. Parking arrangements for these residential buildings are equally diverse, ranging from deeded or assigned parking to no parking at all. If charging at the PEV driver's assigned parking space is not possible, other possible charging solutions to explore include:



EQUIPMENT

- Set up Level 1 charging (120 volt).
- Install charging equipment that can serve more than one PEV.
- Use charging stations with advanced technology to address issues such as electricity metering, billing and payment for electricity, and access by multiple users.

LOCATION

- Trade parking places so PEV drivers can park where it's cheapest to install charging.
- Use guest parking.
- Charge overnight in nearby municipal lots, business buildings or shopping malls.
- Park at on-street charging locations close by.
- Use alternative charging options (workplace, public charging, DC fast charging) or car sharing services.

COST

- Bundle the cost of electricity with the cost of parking.
- Adopt energy efficiency measures to free up electrical capacity in the building.



Source: California PEV Collaborative (CG6-1)

SITING CONSIDERATIONS



Challenging Metering Configurations
at a Multi-unit Dwelling

California Senate Bill 880 protects the rights of multi-unit dwelling residents to install home charging

SB 880 protects the rights of residents of multi-unit dwellings, affirming that “it is the policy of the state to promote, encourage, and remove obstacles to the use of electric vehicle charging stations.” The legislation makes it illegal to impose any condition that “effectively prohibits or unreasonably restricts” installation of charging in an owner’s designated parking space. If the charging unit is installed in a common area, a variety of conditions can be imposed, including a \$1 million homeowner liability policy that names the association as an additional insured.

MULTI-UNIT DWELLING CHARGING INSTALLATION PROCESS


Initial steps include: permission; planning; utility electrical service survey; and electrical design. These are followed by:



Source: California PEV Collaborative (CG6-2)

PEV DRIVERS' SUCCESS STORIES INSTALLING CHARGING AT MULTI-UNIT DWELLINGS

“My charger installation required the short move of an existing isolated 240 V plug (from an unused dryer plug) so I lucked out.

 Bakersfield, CA

“Not only did my landlords let me do it, they paid for part of the installation and had their own handyman take care of it.

 Santa Monica, CA

“We live in an apartment in Van Nuys -- LADWP territory. We chose not to install Level 2 Electric Vehicle Supply Equipment (EVSE), and we get by fine with a 120V outlet in our parking garage.

 Van Nuys, CA

“We are at an old apartment in Redondo Beach. Our building owner was very supportive of the BMW Mini-E charger install as well as the Nissan LEAF™. They saw it as something they could advertise as how progressive they are.

 Redondo Beach, CA

Source: California PEV Collaborative (CG6-3)

PEV READY POLICY CHECKLIST FOR HOAs, OWNERS AND MANAGEMENT

HOAs, building owners and property management need to establish policies governing MuD PEV charging installations. The following checklist can be used as a guide for developing those policies.

- ✔ How many tenants/owners have PEVs or are likely to buy PEVs in the future?
- ✔ Does the HOA/property owner/management want the charging equipment to serve multiple residents?
- ✔ Are there parking restrictions that limit or govern the installation of charging equipment?
- ✔ Are there equity issues such as re-assigning parking spaces or using limited guest parking for charging?
- ✔ Are there handicapped parking issues (under the Americans with Disability Act, or ADA) to resolve?
- ✔ Can individual units accommodate charging equipment?
- ✔ Can the common area electrical wiring/meter be used (perimeter lights, garage gates, laundry room, etc.) to accommodate one or more chargers?
- ✔ Can PEV drivers use Level 1 (120 volt) or is Level 2 (240 volt) charging needed?
- ✔ Can charging equipment (Electric Vehicle Supply Equipment or EVSE) technology features help solve payment, billing, and access issues?
- ✔ Check regulations to see if the PEV driver (or owner of charging equipment) will need to provide extra insurance to the property owner?
- ✔ Who owns the equipment if the resident moves?

DC FAST CHARGING OPTIONS

Many companies are developing DC Fast Charging equipment that can re-fuel PEVs (capable of accepting fast charge) up to 80% in as little as 30 minutes. Hundreds of DC Fast Charging stations are expected to come on-line in California shortly.



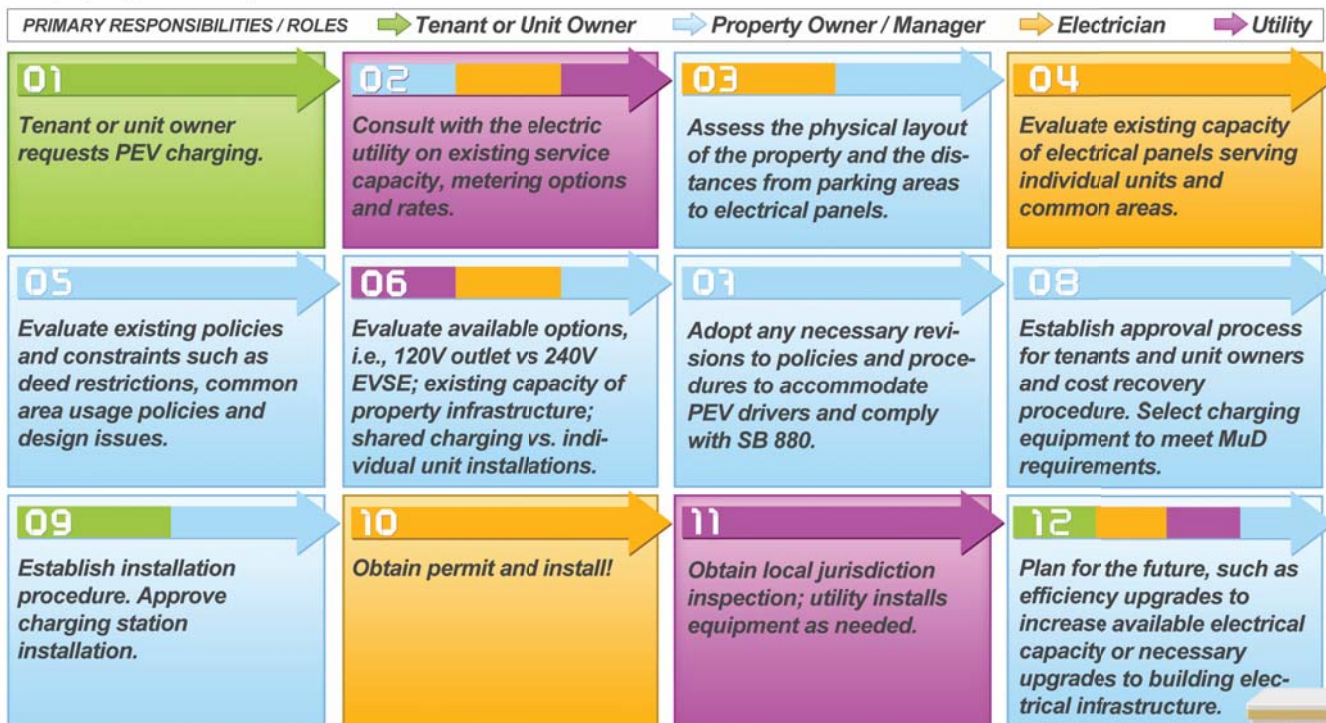
Source: California PEV Collaborative (CG6-4)



MULTI-UNIT DWELLINGS CHARGING INSTALLATION GUIDE

For Property Owners, Property Management Companies, Tenant Associations and Home Owner Associations

Property owners benefit from installing charging through environmental leadership, attracting residents and enhancing property desirability.



Source: California PEV Collaborative (CG6-5). Original source materials developed by San Diego Gas and Electric Co. and the Sacramento Municipal Utility District for the Electric Power Research Institute.

MULTI-UNIT DWELLING PEV DRIVERS START CHARGING



RESOURCES

- 2010 California Green Building Standards Code
www.documents.dgs.ca.gov/CALGreen/2010_CA_Green_Bldg.pdf
- "Addressing Challenges—Electric Vehicle Charging Multifamily Residential Buildings," D. Peterson, UCLA, June 2011
luskin.ucla.edu/sites/default/files/EV_Multifamily_Report_10_2011.pdf
- California Energy Commission
www.energy.ca.gov/drive/index.html
- CALGreen Building Codes
www.documents.dgs.ca.gov/bsc/CALGreen/2010_CA_Green_Bldg.pdf
- California PEV Resource Center
www.DriveClean.ca.gov/PEV
- Electric Drive Transportation Association (EDTA)
www.GoElectricDrive.com www.GoElectricDrive.com/Charging/FindanEVCharger.aspx
- Leginfo
www.leginfo.ca.gov/cgi-bin/postquery?bill_number=sb_880&sess=CUR&house=B&author=corbett
- Mandatory Measures for Newly Constructed Low-Rise Residential Buildings. Los Angeles Municipal Code. Ordinance 181480, Article 9, Division 4. Accessed October 2011
www.ladbs.org/LADBSWeb/LADBS_Forms/PlanCheck/2011LAAAmendmentforGreenBuildingCode.pdf
- Ready, Set Charge California: A Guide to EV-Ready Communities
www.baclimate.org/impact/evguidelines.html