The Ins & Outs of Electric Vehicle Charging Stations under SB 13-126

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In 1886, we were introduced to the first gasoline automobile powered by an internal combustion engine.[i] Today, we fast forward to the first automobile powered partially or totally on electricity. Although electric vehicles ("EV"s) made a brief appearance at the turn of the 20th century, it wasn't until the 21st century that we really started seeing both a renewed interest and future trend in vehicles powered on electricity.

What is an EV? Simply put, it's a vehicle that runs either partially (combined with power from an internal combustion engine) or totally on electricity. There are four types of EVs:

- The Hybrid – Combines the standard internal combustion engine with a small electric battery to propel the vehicle. The Ford Fusion and Toyota Prius are popular examples of hybrid vehicles.
- The Plug-In Hybrid EV – Similar to standard hybrid in that they combine an internal combustion engine with a battery and electric motor. The difference is that plug-ins have a larger battery pack that can be charged directly from an external power source. Most plug-ins run on electric power up to about 40 mph, at which point the internal combustion engine takes over.
- The Extended-Range EV – Uses the internal combustion engine to power a generator, which in turn charges the battery. Unlike hybrids and plug-ins, the engine only charges the batteries while the electric motor powers the wheels. The Chevrolet Volt is an example of an extended-range EV.
- The Battery EV - This vehicle is 100% electric. It has no internal combustion engine and must be plugged into the electric power grid for recharging. The Nissan Leaf is an example.[ii]

So why should Colorado community associations pay attention to the growing number of EVs? It has to do with power. No, not the kind of power that one wields over people, but the kind of power through which people can be wheeled…by cars that is. By 2050, the number of vehicles in the world is estimated to double to two billion.[iii] According to a new report from Pike Research[iv], annual worldwide sales of EVs will reach 3.8 million by 2020. Owners of EVs will need an external power station to charge their vehicles. And, Colorado community associations are prohibited from denying an owner the right to install that external power station.

I. Summary of Law

On May 3, 2013, Governor Hickenlooper signed SB 13-126[v] into law ("EV Bill"). The EV Bill is codified in C.R.S. 38-33.3-106.8, which is part of the Colorado Common Interest Ownership Act[vi]. In summary, the bill prohibits a residential association from denying an Owner the right to use or install:

1. A Level 1 or Level 2 Electric Vehicle Charging System ("EV Charging System" or "System")
2. In the following locations:
    a. On or in a Unit, or
    b. On a Limited Common Element parking space, carport or garage that is owned by the Unit Owner or otherwise assigned to the Owner in the Declaration or other recorded document IF:
        - the system otherwise complies with the Declaration, Bylaws and Rules and Regulations of the Association and

- the Owner agrees in writing to certain conditions relating to the design, installation, expense and insurance of the System

3. Subject to additional regulations related to safety, registration of the System, and aesthetics
4. At the Owner's expense

Each section of the EV Bill is discussed in detail below.

II. What is an EV Charging System?

Residential (not commercial) associations must allow Owners to use or install a Level I or Level 2 EV Charging System in certain locations. The EV Bill defines an EV Charging System as:

> *A device that is used to provide electricity to a plug-in electric vehicle or plug-in hybrid vehicle, is designed to ensure that a safe connection has been made between the electric grid and the vehicle, and is able to communicate with the vehicle's control system so that the electricity flows at an appropriate voltage and current level.*

An EV Charging System must meet the above safety requirements by complying with: (i) the current version of Article 625 of the National Electrical Code[vii] and (ii) the SAE International J1772 standard (discussed below) with respect to the cord connector. Systems that meet the foregoing requirements may be "wall-mounted or pedestal style", and "may provide multiple cords to connect with electrical vehicles".

In addition, the EV Charging System must be certified by Underwriters Laboratories[viii] or an equivalent certification.

III. What is the Difference Between a Level 1 and Level 2 EV Charging System?

Associations are only required to permit Level 1 or Level 2 EV Charging Systems. The difference between the levels is volt and time for charging. The EV Bill defines the levels as follows:

- "Level 1" means a system that provides charging through a 120 Volt AC Plug with a cord connector that meets the SAE International J1772 standard or a successor standard.
- "Level 2" means a system that provides charging through a 240 Volt AC Plug with a cord connector that meets the SAE International J1772 standard or a successor standard.

Level 1 charging time is significantly longer than Level 2 charging time. For example, a Chevrolet Volt charge time may be as high as 11 hours at Level 1, and as low as 3.2 hours at Level 2.[ix]

Note that the cord connector for both level systems must meet the SAE International J1772 standard or a successor standard. The SAE J 1772 is the standard maintained by the **S**ociety of **A**utomotive **E**ngineers[x] for EV connectors. The SAE establishes various standards based on broadly accepted engineering practices or specifications.[xi] The standards become legally enforceable if a particular jurisdiction adopts them, such as Colorado did when adopting the SAE J1772 standard for EV Charging Systems.

IV. Where can an Owner Install the EV Charging System?

First, note that the general assembly encourages common interest communities to fund the installation of EV Charging Systems *on common property* as an amenity for residents, and has provided financial incentives

(discussed below) to help associations pay for such installation. If an association does not want to install an EV Charging System on the common elements, where is the owner entitled to install it?

A. ***On the Owner's Unit***

An Owner may install the System on or in the Owner's Unit. For single family home communities, this likely includes the garage and driveway, as these are usually located within the Unit boundaries. Some townhome communities also include garages and/or parking spaces as part of the townhome Unit. With condominium communities, however, parking spaces are usually part of the Common Elements rather than the Unit.

B. Limited Common Element (LCE) Garages, Carports, Parking Spaces

In communities where parking is available on the Common Elements rather than the Unit, an Owner has the option of installing the System on the LCE parking space, carport, or garage: (i) owned by the Owner or (ii) otherwise assigned to the Owner in the Declaration or other recorded document.

How does one know whether a particular parking space qualifies as a potential EV Charging System location? Many declarations will contain parking exhibits, which list the assignment of LCE parking spaces to specific Units. Or, the developer may have recorded a separate LCE parking assignment document, or assigned spaces on the recorded condominium map or plat of the community. Alternatively, the Owner may own the exclusive right to use a particular LCE space, as established in the deed or other recorded document of the Owner. Associations must consent to an Owner's request to install an EV Charging System on all of the foregoing areas.

In addition, the EV Bill excludes *General Common Element* parking spaces from the areas on which the association is required to permit installation of an EV Charging System. However, if viable, we recommend the association allow installation on the General Common Element parking areas.

V. Additional Conditions for Installation of EV Charging Systems

Although an association is prohibited from banning installation of an EV Charging System on or in a Unit, or on a LCE garage, carport or parking spaces, the association may still regulate installation and use of the System by:

1. Adopting bona fide safety requirements, consistent with an applicable building code or recognized safety standard, for the protection of persons or property;
2. Requiring the Owner to register the System with the association within 30 days after installation;
3. Adopting reasonable aesthetic provisions that govern the dimensions, placement, or external appearance of the EV Charging System.

If the Owner is installing an EV Charging System on an LCE parking space, carport or garage, the System must otherwise comply with the Declaration, Bylaws and Rules and Regulations of the Association. In addition, the Owner must agree in writing to:

1. Comply with the association's design specifications for installation of the system;
2. Engage the services of a duly licensed and registered electrical contractor familiar with the installation and core requirements of an EV Charging System;
3. Bear the expense of installation, including the costs to restore any common elements disturbed in the process of installing the system; and

4. Provide:
   a. a certificate of insurance naming the association as an additional insured on the owner's insurance policy for any claim related to installation, maintenance, or use of the system, within 14 days after receiving the association's consent OR,

   b. if the system is located on a common element, reimbursement to the association for the actual cost of any increased insurance premium amount attributable to the system, within 14 days after receiving the association's invoice for the amount attributable to the System.

VI. Who Pays for Installation and Use of the EV Charging System?

The cost of installing an EV Charging System, whether on or in a Unit or on a LCE parking space, carport or garage, is at the Owner's sole expense. Level I Systems require standard wall outlet charging, so additional wiring may not be necessary, but Level 2 Systems require a dedicated 240-volt circuit. There are several types of EV Charging Systems[xii], with connectors that are compatible with the SAE J1772 standard. 240-Volt Corded systems run about $800 - $900, and the just-released wireless stations run about $3,000, each with additional charges for home installation.[xiii]

In addition to paying for installation of the EV Charging System, the Owner pays for the cost of electricity. If that electricity is provided by the association then the association may either:

1) Require reimbursement for the actual cost of electricity provided by the association that was used by the EV Charging System, or
2) Charge a reasonable fee for access.

And, if the EV Charging System is part of a network for which a network fee is charged, the association's reimbursement may include the amount of the network fee.

With respect to reimbursement of the actual cost of electricity, if the Owner is connecting to the Unit and the Unit is separately metered then calculating the cost of electricity can be done by reading the meter. However, many communities have a either a single meter system for the entire project, or meters that are attached to specific buildings or more than one Unit, without the ability to monitor actual cost of electricity being used by a particular Unit. In such circumstances, an Owner who wants to pay for the actual electricity being used (rather than being allocated some uniform amount) may install, at the Owner's cost and with the Association's approval, a separate meter or some other device that accurately reads the electricity used by the System.

Alternatively, the association can charge a "reasonable fee" for access. How does the association calculate what the "reasonable fee" should be? The association should consider the cost per kilowatt hour (kWh) to charge the EV as well as the time it takes to charge the EV. One kWh is defined as the amount of energy consumed at a constant rate of one kilowatt for one hour.[xiv]

According to the Department of Energy article "The Cost of Charging your Electric Vehicle"[xv]:

> *The annual "fuel" cost for an electric or plug-in hybrid (using only electricity) is $594, at a national average of 11 cents per kwh. Calculating the annual cost times the kWh rate, your EV or PHEV -- using a Level II, 240-volt EV charger -- will require 5,400 kwh of charge per year, or 450 kwh per month. Assuming 450 kwh of charge, multiplied by CPS Energy's average kwh rate of 10 cents (lower than the national average), you would pay an additional $45 per month for electricity, or $1.50 per day.*

Electricity rates vary widely. Associations should consult their electricity providers for reasonable fees to be charged for access to EV Charging Systems, as well as any special offers that may be applicable.

VII. Who Pays for Maintenance of the System or Damage Caused by Installation or Use of the System?

Installing and using an EV Charging System in a LCE parking space, carport or garage area could result in increased costs for maintenance, repair, replacement or damage caused by the System. The EV Bill addresses these potential costs by providing that the Owner (and each successive Owner with exclusive rights to the LCE where the System is installed), unless otherwise specified in a written contract or in the association's declaration, bylaws or rules and regulations, is responsible for any costs for:

- damages to the System, and any other LCE or General Common Element of the Community, and any adjacent Units, garage stalls, carports or parking spaces
- that arise or result from the installation, maintenance, repair or replacement of the System.

In addition, successive Owners with exclusive rights to the LCE where the System is installed must assume responsibility for the repair, maintenance, removal, and replacement of the System until the System has been removed.

What if the association has to perform maintenance or repair of the Common Elements and needs the System to be removed to perform this work? The EV Bill requires the Owner and each successive Owner to remove the System "if reasonably necessary or convenient for the repair, maintenance, or replacement of the Limited Common Elements or General Common Elements of the Common Interest Community."

With respect to insurance costs, the Owner and each successive Owner:

- Shall at all times have and maintain an insurance policy covering the obligations of the Owner under Subsection 5 of the EV Bill,
- Is subject to all obligations specified under Subsection 4(a)(IV) of the EV Bill, and
- Shall name the association as an additional insured under the policy.

VIII. Must an Owner Remove the System if Selling the Unit?

No. Owners have two options under the EV Bill. Upon sale of the Unit "if the Charging System is removable, the Unit Owner may either remove it or sell it to the buyer of the Unit or to the Association for an agreed price." Neither the association nor the buyer is required the purchase the System.

IX. What about Tenants?

Colorado law does not require associations to allow tenants or non-Owner residents to install EV Charging Systems. However, Section 1 of SB 13-126, codified under C.R.S. 38-12-601, imposes restrictions on landlords with respect to tenant requests for installation of EV Charging Systems that are similar to those imposed on associations discussed in this article. So, any tenants who wish to install an EV Charging System will have to make the request through the landlord Owner, who can then make the request to the association.

X. Are There any Financial incentives for an Association or Owner that Wishes to Install an EV Charging System?

A. The EV Grant Fund For Associations

With the passage SB 13-126 came the creation of an EV Grant Fund ("Fund"), which is used to provide grants to install recharging stations for EVs. The Fund was already available to local governments, under C.R.S. 24-38.5-103[xvi], but SB 13-126 expanded the potential recipients of Fund grants to landlords of multi-family apartment buildings and common interest community associations. Of the potential recipients, who

gets priority over the grants? Priority will be "based upon prospective recipients' potential for, and commitment to energy efficiency." The Fund is administered by the Colorado Energy Office.

So how does an association apply for this grant? For details contact the Colorado Energy Office at: http://www.colorado.gov/energy/ 303-629-5450. Or, the association can download the application at: http://cleanairfleets.org/documents/detail/electric_vehicle_and_charging_station_grant_application/

B. Other Recent Legislation

Governor Hickenlooper also signed into law two other pieces of legislation, which lower financial barriers to using plug-in EVs[xvii]:

- HB 13-1247[xviii], which is called the Innovative Motor Vehicle Income Tax Credit, secures state tax credits up to $6000 for EV purchasers or lessees until 2021. The bill specifically covers any EV that can be recharged from external sources, including plug-in hybrids. The bill also covers vehicles that are converted into PEVs, which are eligible for a tax incentive of $7500. This law will take effect in January 2014.
- HB 13-1110[xix], which is called the Special Fuel Tax & Electric Vehicle Fee, establishes a flat, annual fee of $50 for the registration of each plug-in electric vehicle. Sixty percent of the fee replaces the revenue not collected from gasoline taxes and goes toward road and highway maintenance, while the other forty percent funds electric vehicle infrastructure such as charging stations. This law will take effect in January 2014.

For more information on tax credits, including reference to applicable forms, see: http://www.electricridecolorado.com/get_set/my_home/ready-your-home/colorado-tax-credits Or contact Division of Taxation, CO Dept of Revenue http://www.revenue.state/co.us/main/home.asp 303-238-7378.

XI. Readiness Checklist

Given the above, what should the association be doing to get ready for EVs?

1. Adopt an EV Charging Policy, which should include:

    a. reference to the law and definitions of the various technical terms,
    b. procedure for obtaining installation approval,
    c. locations where the EV System can and cannot be installed,
    d. additional conditions for installation of the System, including reference to any applicable design, safety, registration and insurance requirements, and
    e. responsibility for costs to install, use, maintain, and remove the System.

2. Determine appropriate locations for installation of EV Charging Systems, including which areas are permitted LCE parking spaces, carports or garages and whether they are assigned to the Owners under the Declaration or other recorded document

3. Adopt design and aesthetic guidelines for the System (which can be included as an exhibit to the Policy)
4. Review applicable building codes and adopt safety requirements consistent with the same or other recognized safety standards (which can be included as an exhibit to the Policy)
5. Determine whether the association should install an EV Charging System on the General Common Elements and, if so, apply for a grant under the EV Grant Fund
6. Research additional financial incentives and determine whether they could be applicable to the association

In addition, a report prepared by Sustainable Transportation Strategies entitled "Siting Electric Vehicle Charging Stations" provides guidance on how and where to install equipment to keep EVs powered up and running reliably.[xx] Developers and associations that are planning new construction should consider this and similar reports when planning for and placing extra conduits for EV Charging Systems.

CONCLUSION

Electric Vehicles are here to stay. And, just like with satellite dishes, political signs, and solar panels, to name a few, Colorado community associations are now prohibited from denying an owner the right to install Systems for charging EVs. Make sure you review the new EV Bill in detail, and go through the Readiness Checklist. Here are some additional resources which may be of use:

- Project Fever (Fostering Electric Vehicle Expansion in the Rockies) – Information for readying your home for an EV including: voltage requirements, where and how to charge, initial costs to buy and set up home charging, impact on electric bill, what you save in gas and Colorado Tax Credits: http://www.electricridecolorado.com/get_set/my_home/ready-your-home
- Charge Ahead Colorado – Program design to expand the EV infrastructure in CO and help incentivize the EV market statewide: http://www.colorado.gov/cs/Satellite?c=Page&childpagename=GovEnergyOffice%2FCBONLayout&cid=1251600834977&pagename=CBONWrapper
- General Colorado site regarding electric vehicles: http://www.ElectricRideColorado.com/
- Colorado Laws and Incentives for Vehicle Owner/Driver: http://www.afdc.energy.gov/laws/laws/CO/user/3260
- Colorado Financial Incentives for Renewables and Energy Efficiency: http://www.dsireusa.org/incentives/index.cfm?re=0&ee=0&spv=0&st=0&srp=1&state=CO
- Energy Efficiency Guide for Colorado Businesses http://www.coloradoefficiencyguide.com/

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[ii] Types of Electric Vehicles http://www.tva.com/environment/technology/car_vehicles.htm#erev
[iii] Number of Cars Worldwide Surpasses 1 Billion http://www.huffingtonpost.ca/2011/08/23/car-population_n_934291.html
[iv] Forbes Article, Worldwide Electric Vehicle Sale to Reach 3.8 Million Annually by 2020 http://www.forbes.com/sites/tjmccue/2013/01/03/worldwide-electric-vehicle-sales-to-reach-3-8-million-annually-by-2020/
[v] SB 13-126 http://www.leg.state.co.us/clics/clics2013a/csl.nsf/fsbillcont3/A59A32ABE3B4AD2287257AEE0058ED4A?open&file=126_enr.pdf
[vi] CCIOA http://www.hindmansanchez.com/resources/pdf/colorado-common-interest-ownership-act-ccioa

[vii] NEC Article 625 http://www.advancedenergy.org/transportation/charging_station_forum/files/Durham%20Inspections%20-%20NEC%20Article%20625.pdf Colorado adopted the 2011 NEC without amendment with an effective date of July 1, 2011.

[viii] Underwriters Laboratories, USA Page http://www.colorado.gov/cs/Satellite?c=Page&childpagename=GovEnergyOffice%2FCBONLayout&cid=1251600834977&pagename=CBONWrapper

[ix] Metro Plug-In Article with sample table of charging times http://www.metroplugin.com/faq/

[x] SAE International, Mission and Vision Statements http://www.sae.org/about/board/vision.htm

[xi] SAE International Standards Development Process http://www.sae.org/standardsdev/devprocess.htm

[xii] Sample EV Charging Stations http://www.chargepoint.com/products-chargepoint-stations.php

[xiii] LA Times, Electric Car Industry Reps Cheered by Market Growth http://www.latimes.com/business/autos/la-fi-hy-electric-car-growth-20130625,0,1890296.story

[xiv] Definition of kWh http://saveenergy.about.com/od/energyefficientappliances/g/kilowatt_def.htm

[xv] The Cost of Charging Your Electric Vehicle http://www.cpsenergy.com/About_CPS_Energy/Who_We_Are/Research_and_Technology/Plug_In_Vehicles/PlugIn_recharging_cost.asp

[xvi] C.R.S. 24-38.5-103 http://www.lexisnexis.com/hottopics/Colorado/

[xvii] C2ES Article on Colorado Tax Incentiveshttp://www.c2es.org/us-states-regions/news/2013/colorado-passes-tax-incentives-support-electric-vehicle-adoption

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[xix] HB 13-1110 http://www.leg.state.co.us/clics/clics2013a/csl.nsf/fsbillcont3/0602C7EBF986A79387257AEE00574BCD?open&file=1110_enr.pdf

[xx] Siting Electric Vehicle Charging Stations http://www.sustainabletransportationstrategies.com/wp-content/uploads/2012/05/Siting-EV-Charging-Stations-Version-1.0.pdf