



The landscape for providing power and energy to apartment residents is changing significantly. As a result, property owners are facing a number of new regulations, as well as opportunities for income. Sometimes these energy services can be structured to pass through costs to tenants or even to capture new revenue because they provide a desired service. For example, some property owners are already implementing virtual net metering to help tenants better control energy costs.

The next frontier in this trend will be finding solutions to the rising demand for electric vehicle (EV) charging. Whether implemented, owned and operated by the apartment owner, or set up by an electric vehicle service provider, the accommodation of EVs is both an amenity demanded by tenants and a state policy with various regulatory factors.

Technological strides are enabling EV charging to be delivered more seamlessly and with greater control than ever before. Apartment owners in San Francisco and nationwide are structuring this amenity as a service that attracts prospective tenants and brings in a new source of revenue. This is possible even in many rent controlled properties, as these capabilities can be delivered as a new amenity beyond the current lease provisions and tenants can opt in to joining.

The Demise of the Split Incentive

Economics and market incentives are changing energy delivery. Tenants have traditionally, but not always, paid their own electricity just as they pay for their own gasoline. This has, in the past, led to a "split incentive": the property owner has little to no incentive to take actions that might lower utility bills paid by the tenant.

Policymakers, from our own state legislators and governor to national regulators, have been analyzing power delivery models to help address issues such as national security, energy security, climate change and greenhouse gas effects. The goal is to create market incentives for each participant in the system so that energy is generated locally, is more efficient and has less impact on the environment. As evidenced by recent state laws and the January 2015 "State of the State" speech by Governor Jerry Brown, energy industry change is here for apartment owners—with more to come.

There are five key industry changes affecting power delivery. First, PG&E has implemented higher charges for smaller units in its most recent rate increases (January 2014 through January 2015). For example, studio and 1-2-bedroom apartment tenants are expected to pay almost 16% to 23% more for electricity than in January 2014. Conversely, larger units and single-family houses consuming 700 kilowatt hours (KWH) or more per month are actually seeing a decrease in charges of approximately 4%. This increase is going to create strong interest in ways to reduce or control costs by small-apartment tenants.

Second, EVs are selling fast and pressuring the grid (and apartment buildings). Approximately 10% of all new cars being sold in the Bay Area are plug-in hybrids or all-electric EVs, a figure well ahead of the mandates set out by policymakers. This market demand is pressuring building owners with the attendant electrical upgrades needed to supply EV charging. To put this in perspective, a single average EV in California today requires a power draw of 7KW and newer vehicles are being delivered with charging power capability of 10KW or more (a Tesla can be up to 20KW or 80 amps per car). By comparison, the average 1-bedroom apartment draws about 1 to 2KW at peak. With 10% of new vehicle sales requiring electric chargers, this can

quickly amount to higher power demands on buildings.

Third, 2014 was a busy year for energy policy and 2015 is looking to be even more dramatic. Two relevant 2014 laws are already in effect. AB 2565 gives tenants the ability to install an EV charger for their vehicle (in properties where fewer than 10% of the parking stalls are equipped for charging and where they have a private parking stall). The tenant must pay for the cost of the EV charger, the electrical work to the existing building service and the ongoing cost of electricity. The property owner, however, is responsible for any required service upgrades, such as those from the utility company. Rent controlled buildings are exempt from this requirement, as are properties with fewer than five parking stalls.

Also, AB 327 has given the California Public Utilities Commission (CPUC) the authority to restructure utility rates as a whole with an eye towards "balancing" the costs of the grid for renewables and grid inefficiencies now that solar photovoltaic generation is cheaper than "classic" gasfired generation plants in many instances. Much of these costs are attributable to the grid and maintenance costs PG&E has had to expend due to the recent reviews of the San Bruno explosion and subsequent systemwide safety upgrades. The net effect expected by experts is that base electric monthly costs will be going up and smaller users can expect to see, on top of other increases, up to an additional 17% increase from January 2015 rates as the costs of PG&E's repairs get integrated.

Fourth, in his "State of the State" speech, Governor Brown announced new energy policy goals: that 50% of California's total energy generation should come from renewables, that we should eliminate 50% of gasoline *and* diesel consumption in California, and that we should double energy efficiency in commercial buildings. Even after accounting for fuel efficiency increases, car sharing, increased rapid transit and other efficiencies, the governor's plan will result in a need for approximately 35% of California's vehicles to be fully electric.

The shift away from gasoline will keep about 50% of the \$54 billion per year that Californians currently spend on gasoline in the state. This means over \$27 billion in spending that will be kept in the local community rather than being sent out of state and out of country (with foreign oil). In a city like San Francisco, this means approximately \$250 million a year redirected to the local economy.

Finally, demand for EVs are growing among apartment tenants. Many EVs today can be leased for under \$200 per month and the savings from operating these EVs can easily exceed the lease cost of the car. This buying incentive is driving high adoption of EVs, but apartment tenants' charging needs are inherently less well served. Apartment dwellers account for 67% of the population in San Francisco and major urban areas, so the pressure will only rise among tenants seeking EV charging solutions at or near home.

How You Can Profit By Pursuing EV Accommodation

The sea change in consumer preference for EV and EV-hybrid cars is putting pressure on apartment owners, but it is also an amenity that many owners see the benefit of offering. Many apartment owners are either purchasing an EV charging system for self-implementation or using third-party electric vehicle service providers (EVSP).

If choosing the purchase route, the costs and the property's location need to be examined carefully. For example, PEV Collaborative (*pevcollaborative.org*) offers guides on installing EV chargers and has useful outlines of typical apartment building installations. There's a lot to learn about EV charger styles and user characteristics, the provision of parking and the management of the necessary electrical capacity. Check out *pluginamerica.org* for a good overview of various aspects of EVs.

An owner who intends to charge tenants for the service will need a subscription to one of the EVSP networks. While the charging equipment is often financed into the EVSP fees, it can be purchased directly at between \$1,000 and \$8,000 per port for a

network-equipped charger. There are also about \$25 to \$100 per month in fees, depending on the quantity and power capacity of the chargers. Owners may also need to provide an electric service upgrade for the property, which can be a time-consuming and expensive process, depending on the building.

Because of all the complications involved in self-implementation, several companies have started offering turnkey or semiturnkey packages of EV chargers and clean energy services for apartment building owners. These offerings can be as simple as pre-wiring parking stalls (AKA "Make Ready") using existing building electrical capacity. The more comprehensive services, some of which offer income-stream benefits, involve an integrated solar PV system, EV charging and an onsite battery storage system. This system can generate value even when there are no EVs utilizing it by capturing the solar generation for revenue from tenants who do not have an EV.

These turnkey EVSP companies may set prices, handle the maintenance and sell direct to tenants from the web. If structured properly, the system would require no money up front from the property owner, may even pay a guaranteed minimum rent and can cover the cost of electrical upgrades.

In providing onsite EV charging, the owner gains an attractive and valuable amenity for tenants, and in some cases can gain new rental income. Tenants, in turn, benefit from a reduction in their electrical bills, and have convenient access near their home to charge their vehicle. That's on top of saving money on their fuel costs by shifting to EV vehicles.

Veritas Investments, one of the largest owners of apartment buildings in San Francisco, is an early adopter in innovative technologies, and is utilizing a turnkey EVSP for its EV charging system. "In the vein of apartment amenities, adding EV chargers makes a lot of sense to accommodate the growing interest in EVs," said Yat-Pang Au, CEO of

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Veritas Investments, which has been installing and using solar in properties for years, and was one of the first to systematically add Zipcar carshare stations. "We're pursuing an EVSP implementation that has no capital outlay required, and we actually get a monthly rent."

The solution fits Veritas' approach to adding upgrades that are in demand by residents and which enhance the property. "We tend to own classic Victorian buildings with historic architecture," said Au. "The average building sizes are 30-40-unit properties and one of our challenges with these wonderful historic buildings is, how do we create modern spaces and units that appeal to today's tenant profile?"

Building owners in San Francisco and the Bay Area are facing significant change in fulfilling new regulations for electric and hybrid vehicles, and in meeting consumer demand for EV autos. As industry trends continue to evolve in the sector, owners and operators will continue seeking alternatives to manage costs—and attract tenants.

Stacey Reineccius is CEO and founder of San Francisco-based Powertree Services Inc., a third-party electric vehicle service provider. Reineccius has been highly involved in the development of the policy and practice standards to benefit multitenant property owners. For more information, contact ceo@electrictrees.com or visit www.powertreeservices.com.





