

UNTANGLING

COMPLEX ELECTRIFICATION

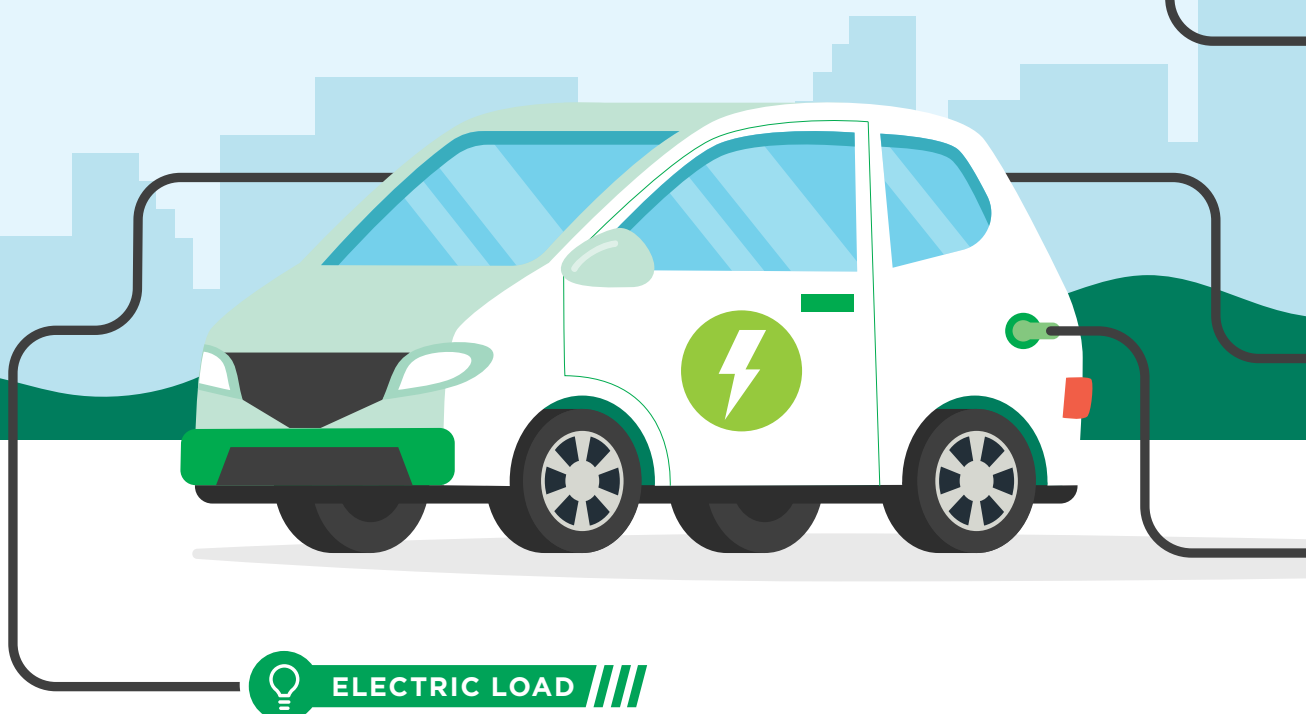
Implementing a successful EV charging program at multiunit dwellings means separating the solutions from potential roadblocks.

The need for at-home charging has limited the public's access to electric vehicles (EVs), typically to single-family homeowners who can afford the convenience. Further deterring EV market penetration are current prices, which place EVs solidly in the luxury car market.

However, according to the Bloomberg Electric Vehicle Outlook 2019 report, EV prices are likely on the decline. The report shows that more than 2 million EVs were sold globally in 2018, up from just a few thousand in 2010. Sales are expected to rise to 10 million by 2025, then continue to climb to 56 million by 2040, comprising 57% of all passenger vehicle sales worldwide.

This trend, combined with a growing market for used EVs, will make such vehicles much more accessible in the coming years. Census data shows that one-fifth of the U.S. population resides in multiunit dwellings (MUDs) — apartment buildings, condominiums and duplexes. Effective planning can help utilities and MUD owners consider the issues at hand and untangle the path toward electrification.

While there is no one-size-fits-all solution, understanding some of the major issues can help owners map out a plan to work successfully with local utilities. This will allow MUD owners to take action to provide better services to customers in the future.



MUD owners must understand the limitations of their local utility, which can impact the ability to add electric vehicle supply equipment (EVSE). At the same time, utilities must consider the effects additional loads will have on their systems. For utilities, providing reliable power to customers is top priority. In some cases, updated distribution circuits will be required to handle the new load created by additional EVSE.



TRANSIENT POPULATIONS

While MUD residents are less likely to reside permanently at one location, their moving frequency has decreased in recent decades, according to census data. Despite this, these residents are still more likely to move than single-family homeowners, making it somewhat difficult for MUD owners to justify investment in EVSE. Owners footing the bill for EVSE will do so knowing that payback on their investment could be variable.



UTILITY PROGRAMS

Some utilities offer funding that supports the build-out of EVSE-supportive infrastructure. Programs can cover some or all of the costs of the infrastructure, requiring that the property owner purchase and install the chargers. While this is most common, other programs allow the utility to install infrastructure and chargers at no cost to the MUD. To qualify, properties must meet certain parameters, such as load, location and ease of infrastructure installation.



RIGHT TO CHARGE

In some U.S. states, laws have been passed that make it difficult for homeowners associations to refuse a tenant's request to install EVSE. This will almost always require the tenant to front the cost of the equipment and installation, but where these laws are in place, tenants have a right to do so.



RATE STRUCTURES

Electricity rates differ across the country. MUD owners must consider the rate structure at their location to build the most effective charging model. However, the demand to charge may increase the energy bill exponentially. Properties that experience a high influx of charging at certain times of day have the potential to cost a landlord rather than provide a return on investment for EVSE.



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PARKING ARRANGEMENTS

MUDs feature countless parking formats that must be considered. MUD owners must think about where they want to install charging stations, how they want to monitor charging or if asking EV owners to rent charge-ready spaces makes the most sense.