

EV Charger Ownership, Management, and Billing



EV Charger Ownership Models

San Francisco real estate developers and Property Managers, when selecting Electric Vehicle (EV) charger hardware, also need to make ownership, software, billing, maintenance, and EV driver support decisions for their multifamily residential, commercial, and industrial building tenants.

This technical bulletin will cover:

- Electrical Vehicle Supply Equipment (EVSE) ownership & maintenance models
- EVSE charging session access & price-setting
- Key EVSE charger features

* Building owners and property managers are key stakeholders and will be collectively referred to as "Property Managers" in this bulletin.

Planning for Success

EVSE is a type of fueling station and, unlike gas stations, are part of your building's infrastructure. EVSE provides an attractive amenity, allowing people to fuel their vehicles while at home, work, shopping, or at entertainment destinations.

Like any nascent industry, the EVSE market is varied, growing quickly, and undergoing innovations on multiple fronts. While choosing the right EVSE for your project can feel overwhelming, it is a decision that deserves your careful consideration since it will impact your project in several ways. In addition to your choice impacting the aesthetics and cost of the EVSE, the decision also impacts the relationship between EV drivers and the property, interactions with the electric utility, and the operation, support, and maintenance responsibilities for the EV charging equipment for years to come.

Pro Tip: Fact sheets on the [program website](#) provide advice on choosing the type and quantity of EVSE for your project and on incorporating EVSE into your designs.

EVSE Business Models

EVSE ownership and operating models are available to meet a wide range of Property Manager needs and budgets. Some firms operate charging networks and will seek out attractive properties where they can place charging

equipment for access by their network subscribers; these firms typically install and operate charging at such locations with no fee, or even with modest payments to the site. For most Property Managers, however, the available business models involve various combinations of site ownership and service agreements that span hardware, maintenance, software, and customer support.

As of the 2nd quarter of 2023, these are the 3 main models in the San Francisco Bay Area:

EVSE Business Model	EVSE Responsibility			
	EVSE Hardware Ownership	Hardware Maintenance	EVSE Network Software	EV Driver Support
Property Manager Owned EVSE	Property Manager	Property Manager or EVSE Vendor	Subscription* or none	Property Manager or EVSE Vendor
Leased EVSE	EVSE Vendor	Property Manager or EVSE Vendor	Subscription	Property Manager or EVSE Vendor
Charging-as-a-service (CaaS)	EVSE Vendor	EVSE Vendor	EVSE Vendor	EVSE Vendor

*Subscriptions for network software may be with the EVSE vendor or, in the case of open charge point protocol (OCPP) equipment, with a third party EVSE network software provider.

EVSE Business Model: Property Manager Owned EVSE

With this model, the Property Manager purchases the EVSE outright. If the EVSE is “smart”, or connected to a network, the Property Manager can subscribe to an EVSE network provider to have access to some or all these typical cloud-based software platform capabilities (see Fig. 1).

Additionally, many vendors offer maintenance and EV driver support either a la carte or as part of the subscription arrangement. Or the Property Manager can have their own personnel provide those services for a reduced fee.

Another option is to install "non-smart" (non-networked) EVSE, which typically costs less than networked EVSE and usage can be measured by routing through sub-meters. However, this arrangement means there’s no way to remotely monitor functional status, see usage reports, or collect payments, and it will also limit the ability to participate in rebate or incentive programs that require reporting or interactivity with demand response programs.

EVSE Business Model: Leased EVSE

In this model, the Property Manager leases the EVSE from a vendor for a monthly fee. This fee typically includes access to the cloud based EVSE software platform and all its capabilities. Again, maintenance and EV driver support may be offered by the vendor but can also be provided by the Property Manager in exchange for a lower lease rate. By leasing, Property Managers can avoid or get reduced fees for EVSE equipment installation, but it’s important to understand the lease rate structure and what is (and is not) covered.

EVSE Business Model: Charging-as-a-Service (CaaS)

Just as a Property Manager hires vendors to take care of the laundry, pool, and landscaping, there is a growing number of vendors offering a comprehensive EVSE service, or “Charging-as-a-Service” (CaaS).

In this model, the Property Manager hires a CaaS provider who owns the EVSE and is responsible for monitoring, maintenance, and EV driver support. The EV driver still has multiple payment options, and the Property Manager still has discretion to set the EV charging session rates and access.

Figure 1. Network Software Capabilities

- Remote monitoring of functional status, which can be used to quickly identify charging ports needing maintenance.
- Regular (typically monthly) usage reporting detailing which EVSE is being used, when, and for how long.
- Determining which EV drivers have access to the EVSE (public, semi-private, or private).
- Setting EV charging session billing rates for EV drivers (free of cost, discounted, marked up to cover costs, or marked up to be revenue positive).
- EV charging session payment collection through RFID fob, credit card, or smartphone app.

EVSE Vendor Offers: Key Considerations

Vendors are free to name their business models as they like. Seek clear answers for who is responsible for hardware ownership, maintenance, software, and customer support to set your property up for success. Other key considerations to look for when signing an agreement with an EVSE vendor are:

- **Installation Responsibilities:** Seldom do agreements include any vendor responsibility for installing electrical capacity and circuits to the EVSE location (“make-ready” infrastructure), and hence the Property Manager is responsible for that substantial portion of the installation.
- **Service Level Agreements (SLA):** SLAs define key metrics like the hours of customer support, length of time allowed to address maintenance needs, and uptime guarantees.
- **LCFS Credit Ownership:** EVSE can qualify for the California Air Resource Board’s (CARB) [Low Carbon Fuel Standard \(LCFS\) credits](#). Many EVSE vendors’ default agreements state the vendor gets to file for and receive the credits, but this can be negotiated.

Typical EV charging vendor fees for both the leased and CaaS models are in the following ranges as of 2023:

- Networking fees are typically charged per port on an annual basis and range from \$60 to \$400 per year, with a 1–3-year commitment.
- Most EVSE vendors include a standard warranty of 1-3 years, and many vendors offer extended warranties ranging from \$70/year to \$350+/year with varying coverages.
- User transaction fees (in addition to networking fees) are common and range from 3% to 15% per transaction. Additional flat per transaction fees (\$0.25-\$0.50) are also common.

	Upfront Project Costs	Operational Costs	Notes
Property Manager Owned EVSE	\$\$\$	\$	Operational costs are primarily usage and software licenses, repair, and maintenance.
Leased EVSE	\$\$	\$\$	Ongoing lease and, possibly electricity usage, costs.
Charging-as-a-Service (CaaS)	\$	\$\$\$	While the ongoing operational costs may be higher relative to the other models, a portion of those costs can be passed on to the EV driver.

Property Managers are encouraged to get multiple bids from vendors, as it is common for vendors to tailor offers to projects.

Open Charge Point Protocol (OCPP) Compliance

A key consideration when selecting EVSE is OCPP compliance. The OCPP is a set of policies and standards set by an EVSE industry group with the goal of EVSE interoperability. OCPP compliance is voluntary and choosing an “open” OCPP compliant network software now gives the EVSE owner the option of switching to another OCPP compliant EVSE network in the future, like switching cell phone networks but keeping the same phone. EVSE software that is not OCPP compliant is considered a “closed” network and may limit future changes. The most current version is OCPP 2.0 which was published in 2018. Additional information is available [here](#).

Opportunities Today...and Tomorrow

EVSE offer an increasingly attractive amenity, drawing tenants and visitors to well-operated sites, or providing a valued benefit to employees. Utilities, meanwhile, are continuing to develop programs that offer EVSE revenue generation opportunities; these include the previously mentioned CARB LCFS credits and programs where shifting the time of EV charging to off-peak hours is rewarded. This is just the beginning.

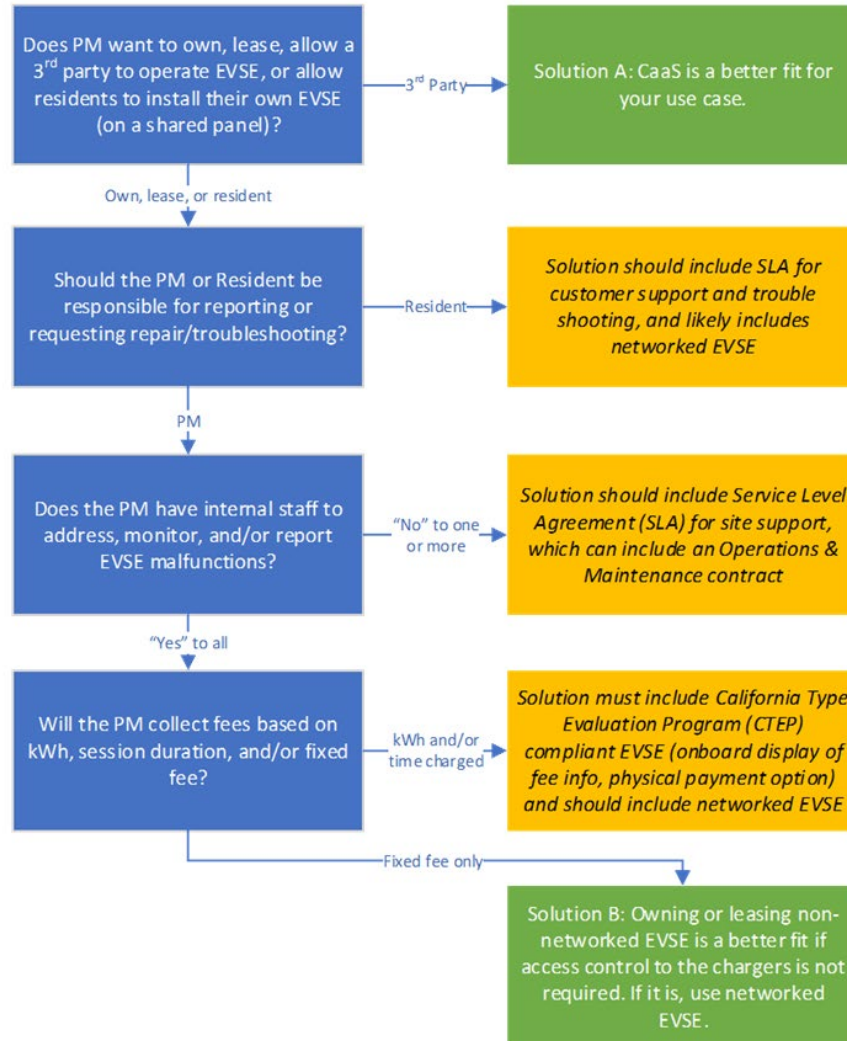
Pilot programs are gathering real-world data on “vehicle-to-grid” (V2G) technology where EV batteries soak up excess carbon-free electrons generated during the day and then discharge those electrons during peak demand in the evening. These pilot programs are defining and testing the necessary updates to hardware and software across

vehicles and charging sites. In supporting overall EV adoption and pioneering V2G, California businesses continue their leadership to safe, clean, and reliable energy sources, with new revenue opportunities.

Pro Tip: The EV Charge SF team provides a complimentary service to guide you through the EVSE hardware, software, and vendor options. Learn more [here](#).

Figure 2. EVSE Ownership Decision Tree

Assumption: EVSE will be installed on a common area shared panel.
Property management (PM) will, at minimum, coordinate day-to-day EV charging policy, such as access to or assignment of chargers and initial notifications about malfunctioning EVSE.



Questions?

Contact: **San Francisco Public Utilities Commission** at (415) 554-0773 or email PowerPrograms@sfgwater.org

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For more information about SFPUC's **EV Charge SF program**, please visit our program [webpage](#).