



Learn EV Charging

BUSINESS & STRATEGY

The EV Charging Business Cheat Sheet

Who makes money where, what the models are, and why utilization and demand charges decide it — the one-pager for operators, PMs, and investors.

The commercial mechanics of public charging, in plain English.

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What's inside

The public-charging business is easy to describe and hard to make profitable. This is the map of who's who, how money moves, and the two numbers that make or break a site.

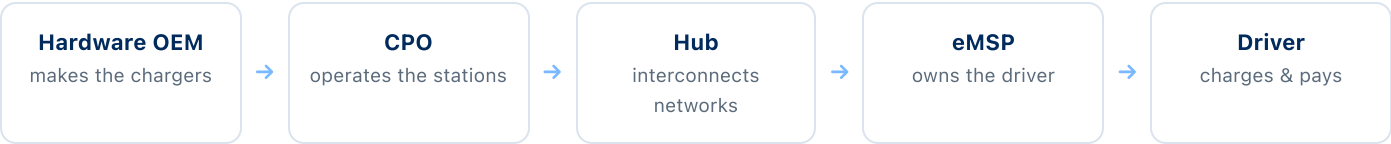
01 The value chain	Who does what — CPO, eMSP, hub, CSMS
02 Business models	Five ways charging gets owned & run
03 Revenue vs costs	Where the money comes from & goes
04 The two numbers that decide it	Utilization & demand charges
05 Roaming, funding & metrics	How networks connect & get paid for

THE WHOLE BUSINESS IN ONE LINE

A charging site is a **high-fixed-cost** asset. Profit hinges on **utilization** (enough sessions to cover those costs) minus **demand charges** (what the utility bills for peak power). Everything else is detail.

Who does what

A single charging session touches several businesses. Knowing which is which is the whole foundation.



Role	What they own
Hardware OEM	Builds the physical chargers (e.g. ABB, Tritium, Kempower, ChargePoint hardware, and many others across NA & Europe).
CPO (Charge Point Operator)	Owns/operates stations, sets pricing, keeps them running. EVgo, Electrify America (NA); IONITY, Fastned (EU).
eMSP (e-Mobility Service Provider)	The driver relationship — the app, the card, the bill. Often the same company as the CPO, often not.
Roaming hub	Interconnects many CPOs and eMSPs so a driver can charge on networks they don't have an account with.
CSMS	The software platform that manages the stations (over OCPP). Some CPOs build it; many buy it.
Site host	The property owner (retail, workplace, fleet depot) that provides the land and often the grid connection.

Five ways it gets owned & run

Model	How it works
Owner-operator	One company owns the hardware and operates it, taking the charging revenue and the risk. Most large public DC networks.
Host-owned, operator-run	The site host buys the hardware; an operator provides software + support for a fee. Common at workplaces and retail.
Charging-as-a-Service	Turnkey — a vendor finances, installs, owns, and runs everything; the host pays a subscription and avoids the capital outlay.
Destination / amenity	Charging as a draw for a hotel, restaurant, or shop — a customer magnet, not a profit center in itself.
Fleet / depot	Private charging for a fleet (delivery, transit, rideshare). Predictable, high utilization — usually the best economics.

KEY

The models differ mostly in **who carries the capital cost and the utilization risk**. Public DC fast charging is the hardest; private fleet/depot charging is the easiest, because utilization is known in advance.

Revenue vs costs

Revenue streams

- Energy margin (markup per kWh)
- Time fees (per minute)
- Session / connection fees
- Subscriptions & memberships
- Idle fees (staying plugged in after charging)
- Ads & retail partnerships
- Grid services / demand response
- Software (SaaS) fees, for CSMS providers

Cost drivers

- Hardware (DC chargers are expensive)
- Installation / make-ready (trenching, electrical, permits — often exceeds the hardware for DC)
- Electricity: energy *plus* demand charges
- Networking & software (CSMS, connectivity)
- Maintenance & uptime
- Payment processing
- Land / rent

GOTCHA

For public DC, **installation frequently costs more than the charger itself**, and electricity has two parts — energy (per kWh) and demand charges (per peak kW). Model both, or the pro-forma is fiction.

Utilization & demand charges

Demand charges — the silent killer

Utilities bill commercial sites not just for energy used (kWh) but for their **peak power draw (kW)** in the month. A DC charger briefly pulling 150+ kW can set a high peak — and a big fixed monthly charge — even if it was only used a few times. At low utilization, demand charges can be the largest single line of operating cost.

Mitigations: on-site battery buffering, active load management across chargers, demand-charge-aware utility tariffs, and — above all — more sessions to spread the cost.

Utilization — the number that saves you

Because so much cost is **fixed** (hardware amortization, demand charges, rent, connectivity), profitability is mostly about how many sessions a stall serves. A busy site spreads fixed costs thin; a quiet one can't cover them at any price drivers will pay.

THE CORE TENSION OF PUBLIC DC

Early in a corridor's life, EV traffic is low, so utilization is low — yet the fixed costs (and demand charges) are already there. This is why public fast-charging often needs subsidy or patient capital until EV density rises.

Roaming, funding & metrics

Roaming economics

Roaming lets a driver charge on a network they have no account with; money then settles between the CPO and the driver's eMSP (via charge records, usually over OCPI). Parties connect either **directly** (peer-to-peer) or through a **hub** that charges a fee but removes the N×N burden of integrating with everyone individually.

Funding & regulation

- **North America — NEVI:** US federal funding for highway-corridor charging, with strings attached: e.g. a **97% uptime** requirement and a minimum of four 150 kW CCS ports per site. Plus state and utility programs.
- **Europe — AFIR:** regulation mandating charger coverage along the TEN-T corridors, with rules on availability, payment, and data.

Metrics that matter

Utilization	Sessions/day and kWh/day per stall — the headline number.
Uptime / reliability	% of time available (NEVI sets 97%). Broken chargers kill trust and revenue.
Margin per kWh	Price to driver minus energy + demand cost.
Cost per stall / payback	All-in capital per port, and years to recover it.



Learn EV Charging

KEEP GOING

The map's yours. Now the details.

Go deeper with the full business explainers on the site (tap to read):

- [What is a CPO and an eMSP](#) — the two roles, clearly
- [OCPI vs OCPP vs ISO 15118](#) — the protocols behind the business
- [Every guide on the blog](#) — the full library

Free, vendor-neutral guides and tools for the people building EV charging — engineers, PMs, and operators.

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