

The CPO Business Toolkit

The three models every charging operator ends up building anyway

A unit-economics model, a site-selection scorecard and an uptime SLA template — with the assumptions written down instead of buried in cells.

FOR Founders and commercial leads at charge point operators

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WHAT YOU GET

- A unit-economics model that separates fixed from variable costs properly, so break-even utilisation falls out of it
- A weighted site-selection scorecard you can take to a site visit
- An uptime SLA template with a definition of availability that survives negotiation
- A checklist of the questions to put to a DisCom before signing a site

The four business models

Almost everyone who says "I want to get into EV charging" means one of four quite different businesses. They share hardware and almost nothing else: different capital, different customers, different failure modes. Choosing the wrong one is the most expensive mistake available, and it is usually made before anyone has drawn a model.

MODEL	YOU OWN	YOU EARN FROM	CAPITAL	MAIN RISK
Charge point operator	Chargers on others' land	Driver payments	High	Utilisation
Host / landowner	The land	Revenue share or rent	Low	Choosing the wrong operator
eMSP	The driver relationship	Margin on roaming	Low, needs scale	No differentiation
Captive / fleet	Chargers for your own vehicles	Cost avoided	Medium	Sizing the connection

Charge point operator

You buy the hardware, you pay for the civil work and the connection, you carry the maintenance, and you collect from drivers. Every rupee of return depends on utilisation, and utilisation is the one variable you control least — it depends on where the site is, how many EVs pass it, and whether the charger works when they arrive.

It is the model with the most upside and the only one where a bad site cannot be fixed with better operations. Most of this document is written for it.

Host

You own land with parking. Someone else installs, operates and maintains chargers on it, and you take a share of what they earn or a fixed rent. Your capital is nearly zero, your operational burden is nearly zero, and your upside is capped.

THE MODEL PEOPLE SHOULD CONSIDER MORE OFTEN

A meaningful number of first-time operators would be better served hosting somebody else's chargers on land they already own. It carries a fraction of the risk and teaches you the business at someone else's expense. If you still want to operate in two years, you will do it far better.

eMSP

You own the driver relationship rather than the hardware: an app, an account, a wallet, and roaming agreements that let your drivers charge on other people's networks. Capital is low, but the model only works at scale, because your margin is a slice of someone else's retail price.

It suits organisations that already have the drivers — a fleet, a card programme, a vehicle manufacturer — and rarely works as a standalone start.

Captive

You charge your own vehicles. There is no revenue, only cost avoided, which makes the model easier to justify and easier to get wrong: the value is entirely in the diesel not bought, and the risk is entirely in the electrical connection.

Captive operators consistently underestimate the connection and overestimate the charger. The chargers are a purchase order. The sanctioned load is a six-month conversation with a DisCom.

Choosing

- 01 Do you have land with parking and passing traffic? Consider hosting before operating.
- 02 Do you have vehicles of your own? Captive first, public later — the base load de-risks the site.
- 03 Do you already have a driver base and no hardware? eMSP, and sign roaming before building anything.
- 04 None of the above, but you have capital and can find sites? CPO, and read the next two chapters carefully.

Building the unit-economics model

Most charging business plans are built forwards: assume a number of sessions, multiply by a price, subtract some costs, arrive at a profit. The number of sessions is the assumption doing all the work, and it is the one nobody can defend. Build the model backwards instead — solve for the utilisation at which the site breaks even, and then ask whether that number is plausible for the location.

Step one: landed cost per kWh

Not the tariff. The tariff is what you pay per unit of energy; the landed cost is the whole electricity bill divided by the units you actually deliver to vehicles. The gap between them is where charging businesses die.

COMPONENT	SCALES WITH USAGE?
Energy charge per kWh	Yes
Demand charge on sanctioned load	No — fixed monthly
Fixed and meter charges	No
Electricity duty and surcharges	Usually yes
Conversion losses (AC/DC, standby)	Partly

The second row is the one that surprises people. A 100kW sanction carries the same demand charge whether the site delivers 400 units a month or 12,000. On a young site the demand charge routinely exceeds the energy charge, so the landed

cost per unit can be two or three times the tariff — and then falls steeply as volume grows.

DO THIS WITH A REAL BILL

Take one month of a comparable connection: the total payable, including every surcharge, divided by units consumed. Do not reconstruct it from the tariff schedule. The schedule and the bill disagree more often than they agree.

Step two: contribution per kWh

Retail price minus the parts that scale. Everything that does not scale belongs in the fixed pile, including the demand charge, and is recovered by volume rather than by margin.

- Variable: energy charge, duty, payment gateway fee, revenue share to the host if it is a percentage of revenue.
- Fixed monthly: demand charge, connectivity, platform fee if it is a flat licence, insurance, rent if the host takes rent rather than a share.
- Fixed annual: preventive maintenance, an allowance for parts, one dispatch per charger per year as a floor.
- Capital: hardware, civil works, connection charges, cabling — amortised over a life you are willing to defend, typically seven to ten years for AC and shorter for DC.

Step three: solve for break-even utilisation

Fixed monthly cost divided by contribution per kWh gives the units per month the site must deliver to cover its fixed costs. Divide by the connector's realistic monthly capacity to get break-even utilisation as a percentage. That single number

is the whole business case.

Realistic capacity is not nameplate. A 60kW DC charger does not deliver 60kW for an hour: vehicles taper, the unit derates when hot, and there is dead time between sessions. Derating to somewhere between 55 and 70 percent of nameplate is closer to what a site actually achieves.

THE SANITY TEST

If break-even utilisation comes out above roughly 15 percent for a public DC site, the model is fragile — that is a busy site, not an average one. Above 25 percent, either the pricing is wrong, the connection is oversized, or the site is not viable. Change one of those three rather than adjusting the traffic assumption.

What to do with the answer

Three levers move break-even, in descending order of effect. Reduce the sanction, which cuts the demand charge — load management is what makes this possible. Raise contribution, by pricing properly rather than matching the nearest competitor. Reduce capital, usually by choosing a smaller charger than instinct suggests.

Note what is not on the list: increasing the traffic assumption. That is the lever every failing model reaches for, and it is the only one that changes nothing about the site.

The site-selection scorecard

Site selection decides more of your return than pricing, hardware and operations combined, and it is usually done on instinct during a single visit. A scorecard does not make the decision for you. It makes you visit the same things every time, and it makes the reason for a rejection legible six months later when someone asks why you passed.

The three that override everything

Score these first. A site that fails any one of them does not get scored on the rest, however attractive it looks.

- 01 Electrical headroom. Is there sanctioned load available, or a realistic path to it? A perfect location with no power is not a site, it is a project with an unknown end date.
- 02 Security of tenure. How long is the agreement, and what happens at the end? Capital deployed on a one-year renewable arrangement is capital at risk.
- 03 Access. Can a driver actually reach the bay — at the hours you intend to operate, without a barrier, a ticket or a security guard's permission?

The eight that get weighted

CRITERION	WEIGHT	WHAT GOOD LOOKS LIKE
EV traffic passing	20%	Observed, not inferred from registrations
Dwell time match	15%	AC where people stay hours, DC where minutes
Visibility from the road	10%	Seen before it is searched for
Amenities within walking distance	10%	Somewhere to be during a session
Competing chargers nearby	10%	Some is validation; saturated is not
Civil works required	15%	Short cable run, no trenching across a road
Host quality	10%	Understands the deal, will enforce the bays
Expansion room	10%	Space and panel capacity for the second phase

Dwell time is the one people get backwards

The question is not how much traffic passes, but how long a driver would naturally stay. A mall is a two-hour dwell, which suits AC. A highway plaza is twenty minutes, which requires DC. Installing DC where people stay for hours wastes capital; installing AC where they stay for minutes creates a bay nobody uses twice.

Reading the host's electricity bill

Ask for a recent bill at the first serious conversation. Hosts hand it over readily and it answers questions a site visit cannot.

- Sanctioned load versus recorded maximum demand. The gap is your headroom, and it is free.
- Tariff category. A commercial connection may or may not be able to serve public charging without a category change.
- Whether demand charges are levied on sanctioned or recorded demand. This changes whether adding load is expensive or nearly free.
- Power factor penalties, which tell you something about the state of the installation you are about to connect to.

THE GAP IS THE SITE

A host with 200kW sanctioned and 90kW recorded peak has 110kW of headroom they are already paying for. That site is dramatically cheaper to develop than an identical one with no headroom, and the difference will never appear on a site visit.

Scoring and thresholds

Score each weighted criterion out of five, multiply by the weight, total out of 100. Set a threshold before you start looking — otherwise the threshold becomes whatever the site you like scores.

A workable starting point: below 55, decline. 55 to 70, negotiate the terms down to match the risk. Above 70, move quickly, because someone else is also looking at it.

Structuring the host agreement

Site partnerships fail on ambiguity, not on percentages. Almost every dispute an operator has with a host is about what the percentage applies to, and every one of them could have been prevented by ten minutes of writing at signature.

Twenty percent of what

Name every component explicitly, in or out. This list takes minutes to agree at the start and is unresolvable once a statement has been issued.

COMPONENT	USUALLY	BECAUSE
GST	Out	It was never your money to share
Payment gateway fees	Out, if stated	Deductible only if the contract says so
Promotional discounts	Contested	The host did not authorise your marketing
Idle fees	In	The bay is the host's asset
Roaming revenue	In, at the settled amount	Not at the partner's gross
Subscription or membership fees	Out	Not attributable to this site

Four structures

- 01 Percentage of net revenue. Aligns both sides with utilisation and costs the host nothing when the site is quiet. The default, and usually correct.
- 02 Fixed amount per kWh. Simpler to verify, insulates the host from your pricing decisions, and means a discount you offer comes entirely out of your margin.
- 03 Rent. Transfers all risk to you. Only sensible where you are confident of the site and want the upside.
- 04 Minimum guarantee plus share. A compromise that quietly becomes rent whenever the site underperforms, which is exactly when you can least afford it.

ON MINIMUM GUARANTEES

They are the structure most often agreed under time pressure and most often regretted. If a host needs one, the honest question is whether they believe in the site — and if they do not, ask why you do.

Effective dates, never edits

Terms change. A host renegotiates, a rate is revised. Every change must apply from a date forward, and no system should permit editing a term a settled statement was calculated from.

The failure is concrete. Once a statement has been issued and paid, a retroactive edit silently restates history: the host's copy and yours no longer agree, neither can be reconstructed, and the only remedy is recomputing months of settlements by hand.

The clauses to write while it is friendly

- Term, renewal and notice — with a notice period long enough to redeploy the hardware.
- Who provides and pays for the electricity, and how it is metered.
- Bay enforcement: whose job it is when a non-charging vehicle occupies a bay. It is the host's, and it needs saying.
- Access hours, and what happens if the host restricts them later.
- What is excluded from any uptime commitment you give — grid outages, host power, blocked bays, restricted access.
- Asset ownership at the end, who removes the equipment, and who makes good the ground.
- What happens to the driver relationship if the arrangement ends.

Give them a login

The single most effective thing you can do for a host relationship costs nothing: let them see their own sessions and earnings whenever they want. A host who can check stops asking, stops doubting, and renews without a negotiation. A monthly PDF invites the opposite.

The uptime SLA

Sooner or later somebody — a host, a fleet customer, a public authority, a lender — will ask you to commit to an availability number. The percentage is the least important part of that conversation. What matters is what you are measuring, what is excluded, and what you have promised to produce as evidence.

Measure at the connector

A station with four connectors, one of which has been faulted for a week, is not 100 percent available. Measuring per station hides exactly the failure a driver experiences, and any counterparty who thinks about it for a minute will insist on per-connector anyway.

Availability is the share of operating time a connector spent in a state where a driver could have started a session. Available and Occupied both count as available: a connector in use is working. Faulted and Unavailable do not.

CONNECTED IS NOT AVAILABLE

A charger with a healthy heartbeat can still be unable to deliver energy. Quoting connectivity as uptime is why nobody in the industry believes anybody's uptime number. Measure what the driver would experience.

The exclusions to negotiate

Bidders instinctively argue the percentage down. The exclusions matter far more, and most counterparties will accept them if raised early.

- 01 Grid supply failure at the site. You cannot charge a car with no electricity.
- 02 Loss of the host's network connectivity where the host provides it.
- 03 Restricted access — a locked gate, a closed car park, a bay blocked by the host's own operations.
- 04 Scheduled maintenance inside an agreed window, announced in advance.
- 05 Vandalism and vehicle impact, up to the point where a replacement could reasonably be fitted.
- 06 Force majeure, defined rather than gestured at.

What to commit to producing

An SLA without evidence is a sentiment. Commit to a report, and make sure your platform can actually produce it before you sign — availability per connector over an arbitrary date range, with the outage list attached, is the specific capability most systems lack.

REPORT	CADENCE	CONTENTS
Availability summary	Monthly	Percentage per connector, per site, for the period
Outage register	Monthly	Each incident: start, end, cause, exclusion claimed
Incident notification	On occurrence	Anything above an agreed duration, within an agreed time

Setting the number

Commit to what you can hold in a bad month, not a good one. A well-run network on decent hardware sustains the mid-nineties per connector once exclusions are applied; committing to 99 without exclusions is committing to pay penalties for weather.

And cap the penalty. An uncapped service credit turns a bad quarter at one site into an unbounded liability, which is a risk nobody is pricing correctly on either side of the table.

The first ninety days

The first ninety days of a site produce the only data anybody has about it. Most operators spend them firefighting and emerge with impressions rather than numbers. A small amount of discipline here changes every decision that follows — pricing, the second charger, the next site.

Week one: prove the plumbing

- 01 Run a full paid session yourself, end to end, and read the receipt as a driver would.
- 02 Check the meter values on that session against the vehicle's own display. A discrepancy found now is a configuration problem; found in month four it is a refund programme.
- 03 Confirm the tariff snapshot is on the session by changing the tariff and reopening it.
- 04 Reconcile the day: energy delivered, amount billed, amount collected. Three numbers, and they should agree.
- 05 Trigger a fault deliberately and watch how it appears. If nobody would have noticed, fix the alerting before you fix anything else.

Weeks two to twelve: three numbers

Track everything, but let three numbers drive decisions. Everything else is diagnostic detail for explaining them.

Sessions per connector per day, by hour

Whether to add capacity, and whether to price by time

Realised revenue per kWh

Whether your pricing survived contact with reality

Failed sessions as a share of attempts

Whether the site has a problem you cannot see

Sessions by hour, not per day

A daily average hides the shape, and the shape is the decision. Two sharp peaks with empty hours between is a pricing problem. A broad plateau is a capacity problem. They look identical in a daily figure and require opposite responses.

Realised revenue per kWh

Total collected divided by total energy delivered. It should be close to your headline rate. Where it is not, the gap is discounts you forgot about, sessions that were never billed, or a tariff that is not applying where you thought.

Failed sessions

A driver who arrives and cannot charge costs far more than the session, because a meaningful share of them do not return. Split failures by cause: charger faulted, authorisation failed, payment declined, vehicle refused, driver cancelled. The first two are entirely yours.

Day 90: the review

Four questions, answered from the data rather than from memory.

- 01 Is actual utilisation above the break-even figure the model produced? If not, is the trend closing the gap or flat?
- 02 Is the shape of the day telling you to price differently before you spend on capacity?
- 03 What share of dispatches were avoidable, and what would have avoided them?
- 04 What did the site partner's first statement look like from their side, and did they ask any question you could not answer immediately?

DO NOT REPRICE IN MONTH ONE

The first weeks are curiosity traffic and are not representative. Give it a full month of ordinary operation, then change one thing at a time — changing price and hours together tells you nothing about either.

About this document

Written by the team building zevOS, the charge point management platform. We publish this kind of thing because operators who understand utilisation, demand charges and settlement make better decisions — including about us.

Corrections and disagreements are genuinely welcome. If something here is wrong, or true in most states but not yours, write to support@zevos.ai and we will fix it in the next revision.

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