



What fleet electrification actually costs you

And how to stay in control as your fleet grows



Most depot operators are not running out of chargers.
They are running out of capacity.
This guide explains why that happens and
what you can do about it before it becomes expensive.



Charging is not the real challenge anymore.

Most depots already know how to charge vehicles. They install chargers. They connect fleets. They make electrification possible. But as fleets grow, something changes. Charging starts to impact everything else: site capacity, energy costs, operations, financial performance.



**The challenge is no longer charging.
It is controlling energy.**

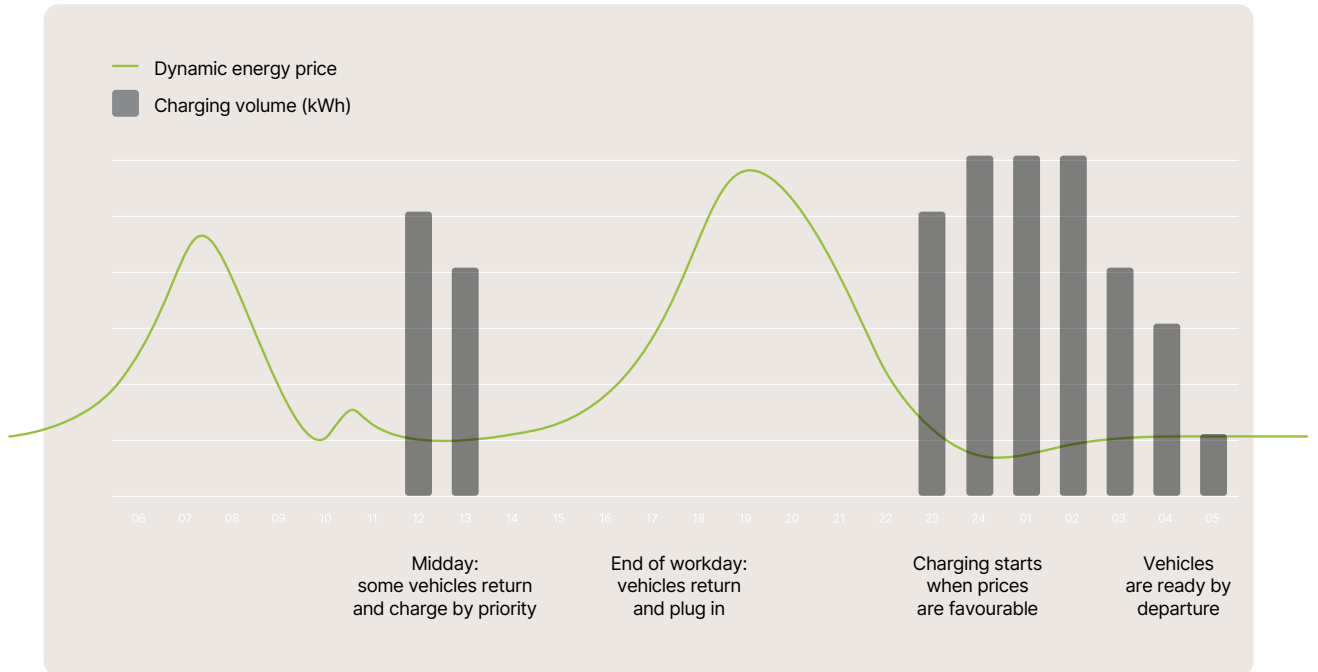
When everything acts independently

In many depots, charging is still treated as a standalone action. A vehicle plugs in. A charger reacts. And that is where the logic stops. But the site does not stop. Other chargers are active. Buildings consume energy. Grid limits apply. Energy prices move. Without energy management and the associated coordination, every charger acts alone. And the site pays the price. Peaks increase. Costs become unpredictable. Growing the fleet means expensive grid upgrades.

| Without energy management | With energy management |
|------------------------------------|---|
| Peaks drive up costs | Charging spreads across available time |
| Grid capacity becomes a bottleneck | Site limits are respected automatically |
| Scaling means expensive upgrades | You can add vehicles without upgrading the grid |
| Someone has to manage it manually | The system decides, not your team |

Depots are predictable. Charging often is not.

Fleet operations follow a rhythm. Vehicles leave in the morning. They return in the evening. Some go out again at midday. The pattern repeats. That rhythm creates two very different charging situations. They need to be handled differently.



Overnight: there is time, use it

When vehicles return in the evening and stay until morning, there is no urgency. The goal is simple: all vehicles ready by departure. Spreading charging across the night keeps peaks low, respects site limits, and leaves room for other loads. The vehicles still leave fully charged. The site just does not spike to get there.

Midday returns: speed matters, but so does order

When vehicles return between routes and need to go out again in two hours, speed matters. But if ten vans plug in at the same time, the site overloads. The answer is not more power. It is smarter allocation. Vehicles leaving soonest get priority. Every vehicle gets what it needs. The site stays stable.

A parcel depot running 40 electric vans was hitting its grid limit every evening. Not because it needed more power, but because all vehicles started charging at the same time. After introducing coordinated charging, peak demand dropped by roughly 35% with no changes to the grid connection or the fleet size.

When trucks are part of the fleet.

Trucks change the equation. A heavy goods vehicle needs far more energy per charge than a van, and time windows are often tighter. If a truck arrives at 10pm and leaves at 5am, standard overnight charging may not cover it.

But the goal is not just to charge trucks. It is to charge them as cheaply as possible, at the lowest available tariffs, without pushing the site's peak connection over its limit. Weekend rates, off-peak windows, dynamic pricing: a coordinated energy management system uses all of that automatically.

That means the system needs to know which vehicles are trucks, when they leave, and what they actually need. With that information, charging is prioritised where it matters, held back where it does not, and the energy bill stays predictable.

Some trucks have tighter time constraints than others and need faster charging as a result. Without peak management, running several trucks simultaneously can put a significant load on the grid connection, enough to trigger demand charges or trip the system entirely. The coordination logic is the same as for vans. Trucks just make the consequences of getting it wrong much more expensive.



Five things that have to work together.

Every depot operates within a set of constraints. Vehicles must be ready. That stays non-negotiable. But beyond that, four things need to be kept in balance.

1

Energy costs

Prices fluctuate throughout the day.
Charging at the wrong time costs more than it should.

2

Site capacity

Every depot has a grid limit.
Exceeding it triggers penalties or, worse, tripped breakers.

3

Operations

Charging decisions should follow departure schedules,
not the other way around.

4

Assets

Batteries, solar panels, and chargers should work as a system,
not as separate pieces of equipment.

5

Vehicle mix

Vans and trucks have very different charging requirements.
A system that treats them the same will underserve one or
overload the other.

Value comes from keeping these
in balance, not from optimising
one and ignoring the rest.

One system. Full visibility. Continuous control.

Smappee connects energy and charging into one environment. Charging adapts to your operations. The site protects itself from overload. Energy is used at the right moment, not just the first moment. This is not about adding complexity. It is about removing it.

What this means in practice


- Your site stays within its limits automatically.
- Your energy use becomes predictable.
- Your operations remain uninterrupted.
- Your teams spend less time managing charging.

Where DC fits in

DC charging is often associated with speed. And in some cases, that is exactly what is needed. But in a depot, speed is only part of the equation.

DC delivers value when it is used deliberately, as a flexible layer for midday top-ups and short turnarounds. Not everywhere. Where it matters.

When DC is part of a coordinated system, it gets used where it adds value. When it is installed without a coordinating energy management system, you end up with expensive infrastructure that creates the same peaks you were trying to avoid.



**Fast when needed.
Smart when possible.**

Find out where your depot stands.

Every depot is different. Grid capacity, fleet size, shift patterns, energy tariffs: the right setup depends on your specific situation.

We offer a free depot energy assessment. In one conversation, we look at your current setup, your growth plans, and where energy management could reduce costs or delay a grid upgrade.



Request your free
depot energy assessment
campaigns.smappee.com/en/depot-charging

Not sure if energy management is relevant for your depot yet?

Use the Depot Readiness Scan on the next pages to check where you stand in under five minutes.

Depot readiness scan.

| | Yes | No |
|---|--------------------------|--------------------------|
| Do you know your site's peak demand at any given moment? <i>If not, you are probably paying for demand peaks you cannot see and cannot manage.</i> | <input type="checkbox"/> | <input type="checkbox"/> |
| Can vehicles be charged based on their departure time, not their arrival time? <i>Most charging systems start immediately at full power. That is rarely the most efficient approach.</i> | <input type="checkbox"/> | <input type="checkbox"/> |
| Does your charging system automatically respect your site's grid limit? <i>Manual management works at 10 vehicles. It stops working at 30.</i> | <input type="checkbox"/> | <input type="checkbox"/> |
| Could you add 20 vehicles to your fleet today without a grid upgrade? <i>If the answer is no, you are already hitting a ceiling.</i> | <input type="checkbox"/> | <input type="checkbox"/> |
| Do you have a single view of energy use and charging across your whole site? <i>Without visibility, coordination is guesswork.</i> | <input type="checkbox"/> | <input type="checkbox"/> |
| Is charging coordinated with other large energy consumers on site such as HVAC or production equipment? <i>Each system acting independently multiplies your peaks.</i> | <input type="checkbox"/> | <input type="checkbox"/> |
| If energy prices drop at night, does your system automatically take advantage of that? <i>Dynamic pricing can significantly reduce your energy bill. But only if your system is set up for it.</i> | <input type="checkbox"/> | <input type="checkbox"/> |
| Can your team see which vehicles are charged and which are not, without checking individually? <i>Operational confidence requires real-time visibility, not manual checks.</i> | <input type="checkbox"/> | <input type="checkbox"/> |
| If your depot includes trucks, do you have DC charging capacity with peak management in place? <i>Trucks need more power over shorter windows. Without DC and active peak management, overnight charging often falls short and morning departures become a problem.</i> | <input type="checkbox"/> | <input type="checkbox"/> |

0 to 2 No answers

*Your depot is in good shape. You are already thinking about coordination.
A quick review can identify where further improvement is possible.*

3 to 5 No answers

*Your depot is managing today, but growth will expose the gaps.
Now is a good time to assess what coordination would cost versus what it would save.*

6 to 9 No answers

*Your depot is running on manual decisions and good luck. As your fleet grows,
the cost of doing nothing adds up quickly. This is worth a conversation sooner rather than later.*

Ready to find out what
coordinated energy management
would mean for your depot?
campaigns.smappee.com/en/depot-charging

