EV charging in apartment buildings

A practical guide by Smappee

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The real challenge is not the technology.
It’s deciding who approves the infrastructure,
how costs are shared fairly, and how
the building prepares for the future.

EV charging is coming to your building. Ready or not.

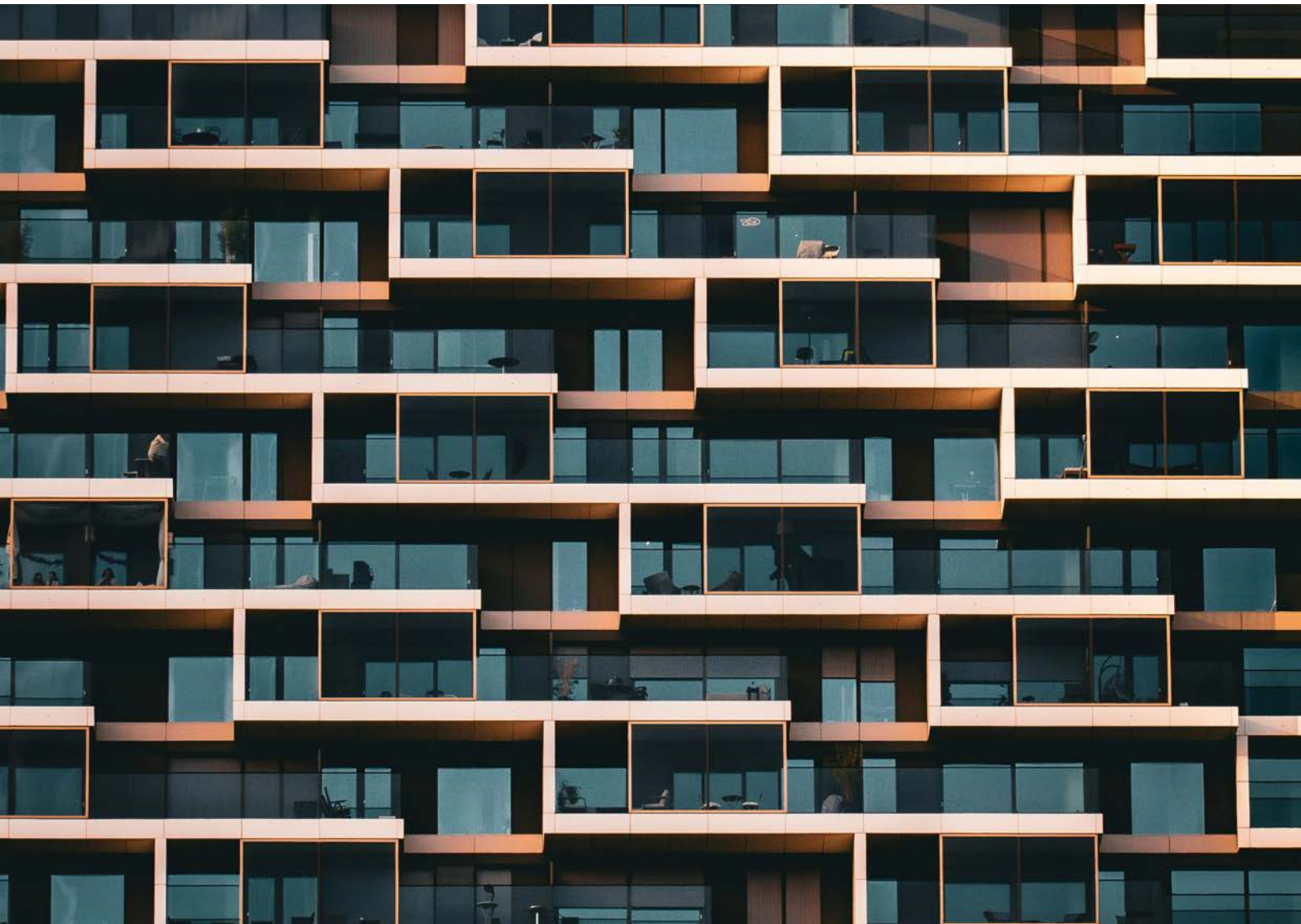
Across Europe, more and more residents in apartment buildings are switching to electric vehicles. They want to charge where they live, in their own parking space. And when they can't, they ask why not.

For homeowners' associations, property managers and residential building operators, that conversation usually arrives earlier than expected. What starts as one resident asking to install a charger quickly becomes a wider discussion about infrastructure, governance and fairness.

Because EV charging in apartment buildings is rarely just about installing a charger.

It raises practical questions about parking ownership, electrical capacity, billing, responsibility and long-term scalability. And while these challenges are similar across Europe, the legal framework and approval procedures can differ significantly from country to country.

This guide does not provide legal advice. It helps buildings ask the right questions before making infrastructure decisions that will shape the property for years to come.



The three questions every homeowners' association needs to answer first

Before discussing charger brands, charging speeds or installation costs, there are three questions that determine almost everything else. Get these wrong and even the best technical solution can create problems later.

1 Who controls the parking spaces?

In apartment buildings across Europe, parking spaces can be privately owned, collectively owned, rented or managed through usage rights. Some buildings combine several of these structures at the same time.

This matters because it determines who can approve charging infrastructure and who carries responsibility for it.

In some buildings, residents may be allowed to install a charger linked to their own parking space. In others, approval from the homeowners' association or property manager may be required. Some buildings choose collective infrastructure from the beginning to avoid fragmented individual installations later.

Understanding the parking structure is the starting point for every EV charging strategy.

2 Who owns the charging infrastructure?

This is a separate question from who owns the parking space.

A charger may belong to an individual resident, to the building association collectively or to an external operator through a service or leasing model.

Each approach has implications for maintenance, upgrades, billing and future flexibility. Infrastructure installed purely for individual use can become difficult to manage as more residents switch to electric driving. A collective approach often creates more consistency, but also requires shared investment and clear governance.

There is no universal answer. The right model depends on the building, the residents and the long-term vision for the property.

3 How are charging costs allocated fairly?

This is where many buildings run into problems.

If multiple chargers operate on the building's shared electrical connection, individual charging consumption needs to be tracked accurately. Without a proper system, costs can easily become unclear or unfair.

Residents without electric vehicles generally do not want to pay charging for those who do. At the same time, administrators do not want complex manual calculations every month.

A well-designed charging system measures each charging session individually and allocates costs transparently to the right resident. This keeps administration manageable and avoids unnecessary disputes later.

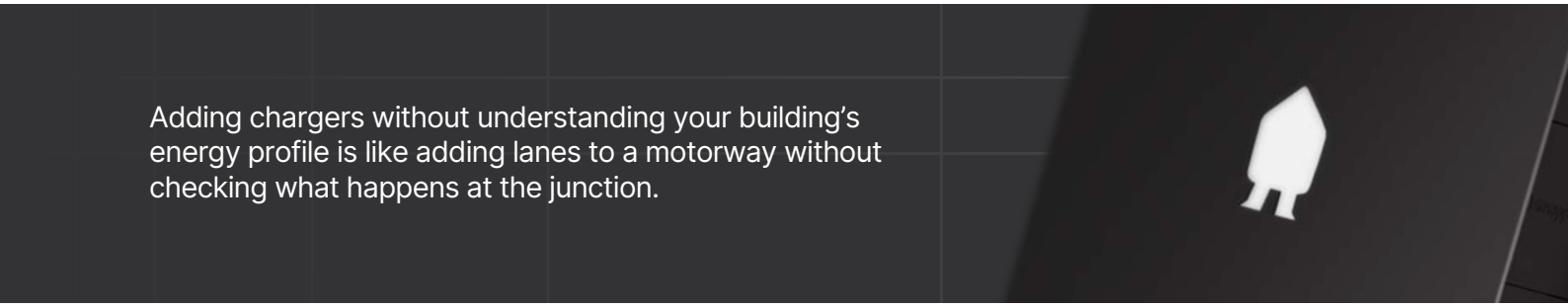
How apartment buildings are actually powered

Most apartment buildings were never designed for large-scale EV charging.

The building's electrical infrastructure already supports apartments, lighting, elevators, ventilation systems and other shared technical equipment. EV charging adds a significant new demand on top of the building's existing energy profile.

The challenge is not average electricity consumption, it's peak demand.

> Adding chargers without understanding your building's energy profile is like adding lanes to a motorway without checking what happens at the junction.



Why peak demand matters

Electricity consumption changes throughout the day. In most residential buildings, demand peaks in the morning and again in the evening when residents return home.

EV charging usually increases demand during those same periods.

If several residents plug in simultaneously, the combined load can quickly push the building close to, or beyond, its available electrical capacity. Without coordination, that may lead to overloaded infrastructure, expensive upgrades or operational instability.

The solution is not always a larger grid connection. Often, the smarter solution is better energy management.

What load management does

Load management distributes available electrical capacity intelligently across active chargers.

Instead of every charger running at full power at the same time, charging adapts dynamically to the building's overall electricity consumption. When the building uses more power, charging temporarily slows down. When more capacity becomes available, charging speeds increase again.

This allows apartment buildings to add meaningful charging capacity without immediately requiring expensive grid upgrades.

Load management is what makes scalable EV charging possible in shared residential buildings.

The four scenarios most apartment buildings recognise

No two buildings are identical. But most apartment charging discussions fall into one of four situations.

1 Private parking spaces, individual charging requests

This is often where the conversation starts. One or two residents buy an electric vehicle and ask to install a charger in their own parking space.

The practical questions quickly become: can the building's electrical infrastructure support additional load? Which electrical connection should be used? How will charging consumption be billed? And what happens when that resident moves out?

A short-term individual installation may solve one resident's immediate need but complicate future expansion for the rest of the building.

2 Shared parking areas, collective charging infrastructure

Some buildings choose to develop shared charging infrastructure for residents collectively.

In this model, the homeowners' association or building management oversees the infrastructure while charging sessions are tracked individually and costs are allocated per user.

This usually creates a more scalable and manageable system, especially as EV adoption increases over time. But it also requires clear governance, investment decisions and long-term planning.

3 Mixed ownership structures

Many apartment buildings combine private spaces, shared parking areas and rental arrangements.

This often results governance complexity. Some residents may want immediate charging access. Others may prefer collective infrastructure. Some may not currently own an EV and may question shared investment.

Without a clear policy, charging requests can quickly become inconsistent and difficult to manage fairly.

4 New developments or major renovations

Buildings under construction or undergoing renovation have a major advantage: they can prepare for future EV demand from the beginning.

This is the ideal moment to plan cable routing, electrical capacity, scalable management systems and future expansion possibilities properly.

Preparing infrastructure early is significantly more cost-effective than retrofitting later.

What a future-ready solution should include

A scalable apartment charging solution does more than install chargers.

- It should include smart energy management. The building's electricity consumption needs to be monitored continuously so charging power can adapt dynamically without overloading the infrastructure.
- It requires transparent billing. Every charging session should be measured individually so residents only pay for their own consumption.
- Operational simplicity matters. Apartment buildings should avoid fragmented infrastructure that residents need to manage individually. A coordinated approach simplifies maintenance, updates and future expansion.
- Flexibility is essential. EV adoption across Europe will continue to grow rapidly. A future-proof system should scale easily as more residents switch to electric vehicles.

What this looks like in practice

Imagine an apartment building with 40 apartments and an underground parking garage. Ten residents already drive electric vehicles, and several more are expected to switch within the next few years.

Instead of installing individual standalone chargers, the building implements shared charging infrastructure connected to a central load management system. Residents activate charging through an app or RFID card. Every charging session is tracked individually.

At the end of the month, charging costs are allocated automatically based on actual consumption. Residents who charge pay for what they use. Residents without electric vehicles do not pay charging costs for others.

When additional residents switch to EVs later, new chargers can be added to the same infrastructure without redesigning the entire system.

The infrastructure is ready for future growth.
The building stays within its electrical limits.
Nobody has to manage it manually.

Apartment building readiness scan

	Yes	No
Does your building have a clear EV charging policy? Without clear guidelines, individual requests can quickly create inconsistent decisions and future conflicts.	☐	☐
Do you know how your parking spaces are organised? Ownership and usage rights determine how charging infrastructure can be deployed.	☐	☐
Do you know the available electrical capacity of the building? Without this information, future charging demand cannot be planned properly.	☐	☐
Is load management already in place? Without smart energy management, simultaneous charging may overload the building infrastructure.	☐	☐
Is there a transparent billing system for charging consumption? Fair cost allocation is essential in shared residential environments.	☐	☐
Is there a long-term infrastructure strategy? Planning only for today's demand creates future limitations.	☐	☐
Is it clear who owns and maintains the charging infrastructure? Unclear ownership often creates complications later.	☐	☐
Could your building support twice as many EVs in the future? If not, scalability should already become part of the discussion today.	☐	☐

0 to 2 No answers

Your building is well prepared. You already have many of the foundations needed for scalable EV charging infrastructure.

3 to 5 No answers

Your building is managing current demand, but important gaps exist. As EV adoption increases, those gaps may become operational or governance challenges.

6 to 9 No answers

Your building is not yet prepared for large-scale EV charging. The first charging requests may quickly expose infrastructure and governance limitations.

Planning proactively now is significantly easier, and often less expensive, than reacting later under pressure.

Not sure where to start?

Every apartment building is different. The right charging strategy depends on the building configuration, electrical infrastructure, governance structure and future charging demand.

That is why we offer a free building assessment.

Together, we evaluate your parking configuration, electrical infrastructure and long-term charging needs to identify the most scalable approach for your building.

Request your free building assessment at: smappee.com/hoa

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