

EPBD – Enable people to charge where they live and work

(Energy Performance of Buildings Directive)

Why the EU should prepare its buildings for electric vehicles

Context

Shifting away from fossil fuel cars towards electric cars means also shifting from refueling to recharging. Charging at publicly accessible chargers is important and will be regulated in the EU's [Alternative Fuel Infrastructure Regulation](#). Private charging however, meaning charging at home or at work, but also while shopping or using recreational facilities, is even more important. According to the European Commission, the latter will account for 60 – 85% of all charging events in 2030. Here the Energy Performance of Buildings Directive (EPBD) comes into play. It is the EU's key piece of legislation when it comes to private charging.

Charging at home or in the office – in building garages where cars are parked – is more convenient for EV drivers, better for grid stability and will always be cheaper than charging at a public charger. Both residential and non-residential buildings need to be prepared for an influx of EV drivers. This will involve cabling garages (but also parking spaces adjacent to a building), to allow for wallboxes to be installed easily, upgrading grid connections

where necessary and accelerating the permit granting process.

What has the European Commission proposed?

The Commission proposed an update to the EU's [Energy Performance of Buildings Directive](#) (EPBD) in December 2021. While the directive's main goal is to make buildings more energy efficient, Article 12 of the proposal specifically deals with charging infrastructure for buildings, making the EPBD the principle EU law dealing with private charging.

The EPBD identifies two main categories of buildings: non-residential (e.g. office-, retail- buildings) and residential. These two categories are then further split between new buildings and those undergoing major renovations on the one hand and existing buildings on the other. The following requirements are proposed:

- For **new non-residential buildings and those undergoing major renovation with more than (>5 parking spaces)**¹
 - at least one charging point
 - for office buildings specifically – at least one charging point per two parking spaces
 - Pre-cablings² for all parking spaces
- **Existing non-residential buildings (>20 parking spaces)**
 - At least one charging point for every ten parking spaces by 2027
 - Buildings owned or occupied by public authorities: pre-cablings for at least one in two parking spaces by 2033
- **New residential buildings + residential buildings undergoing major renovation**³ (>3 parking spaces)
 - Pre-cablings for all parking spaces
- **Existing residential buildings**

‘right to plug’ – member states should remove obstacles that hinder the installation of a charging point
- **Overarching requirements**
 - Smart charging for all charging points (bi-directional where appropriate)

- Remove regulatory barriers, improve permitting and approval process

What’s good? What’s not?

Compared with the existing targets for private charging infrastructure, the proposal is a significant improvement on the requirements for new buildings and those undergoing renovation. However, the ambition remains weak when it comes to existing buildings, which make up the majority of the building stock.

New buildings

The requirements for new and under major renovation buildings form a solid base; notably the pre-cablings requirement for all parking spaces that enables a charging point to be installed relatively easily once it is needed.

The requirement to install a minimum amount of charging points in non residential-buildings is another positive element of the proposal. Still, the requirements should be significantly strengthened to enable EV drivers to charge while they are at work, buying groceries, shopping or working out in a gym.

Existing buildings

However, significantly more stringent requirements for existing buildings are needed as the average renovation rate of non-residential buildings is estimated to be just 2.7% per year – meaning it could take 37 years for all buildings to fulfill the minimum requirements. The absence of any concrete requirements for existing residential buildings becomes even more

¹ Only if car park is physically adjacent to the building and renovations include the car park or electrical infrastructure

² Ducting and cabling infrastructure that is necessary install a private charging point

³ Same as 1

apparent when taking into account that their renovation rate is even lower at just 1.5%. Meaning it could take more than 66 years before all parking spaces in those buildings are EV-ready.

The 'right to plug' that should actually give every EV-driver the right and the possibility to install a private charger where they live, is at the moment not much more than a statement of intent.

How should it be improved?

Pre-cabling requirements for existing buildings

EV drivers – when they have access to private parking facilities – should have the possibility to install a charging point easily. To ensure this, pre-cabling requirements for existing buildings are key. This means that all the ducting infrastructure, cables and electrical installations that are necessary to install a charging point, would be available. T&E therefore recommends that by 2035 all parking spaces in all buildings should be pre-cabled and that intermediate targets of 15% in 2027 and 30% in 2030 are put in place – to align with the expected EV fleet growth. For publicly owned buildings 100% of parking spaces should already be pre-cabled by 2030.

Strengthen the 'right to plug'

Furthermore, the European Parliament and national governments should significantly strengthen the 'right to plug' by setting a maximum time limit of 3 months – between the application for a charger and its actual installation. This will push member states to

map and streamline their national permitting processes.

Improve targets for charging points in new and existing non-residential buildings

For new non-residential buildings and those undergoing major renovations, the requirement to have at least every second parking space equipped with a charging point should apply to all non-residential and not just office buildings. This would include trade and retail buildings (e.g. shopping centers or supermarkets), educational buildings, as well as touristic and health buildings (e.g. hotels or hospitals).

For all existing non-residential buildings at least 15% of all parking spaces should be equipped with charging points by 2030, rising to 30% in 2035. In addition those requirements should already apply for all buildings with more than 10 parking spaces (rather than the proposed 20).

Heavy Duty Vehicle charger

[Battery electric trucks will hit the roads fast](#)

in the short and long-haul road freight transport sector. This is why EPBD should also include requirements to cable private depots and logistic hubs for high-power charging in its articles covering non-residential buildings. This will enable heavy duty vehicle operators to charge overnight or while loading and unloading cargo.

Don't forget...

To charge your vehicle at a public charging point will always be more costly than charging at home or at work. Very often public charging has different price components: it can depend on factors such as the charging speed and whether or not you have a subscription with a CPO. In 2020 in Belgium you would have had to pay from 0.32 EUR up to 0.80 EUR⁴ per kWh. Additionally some providers also ask for a fee for each charging session. Some – but not all – will also charge you for the time your vehicle occupies the charger.

In contrast, charging your EV at home or at work will always be at the same cost per kWh you pay to your electricity provider. For comparison: the average price per kWh in Belgium in the second half of 2020 was 0.18 EUR.⁵ In total this was almost two to four times cheaper than charging publicly

Further information

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⁴ EAFO (2020). Pricing of electric vehicle recharging in Europe. Retrieved from: <https://www.aveve.org/wp-content/uploads/2021/07/EAFO-Report-Pricing-of-Electric-Vehicle-Recharging-in-Europe.pdf>

⁵ Eurostat (2022). Electricity price statistics. Retrieved from: https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Electricity_price_statistics#Electricity_prices_for_household_consumers

