

## EuropeOn's position on the upcoming revision of the EPBD

There are 1.8 million electrical contractors across Europe working to decarbonise our building stock. Committed to the EU's climate targets, they welcome the needed revision of the EPBD as it represents an unmissable opportunity to implement the following changes:

- investing in the modernisation and safety of electrical systems in buildings,
- making buildings ready for the e-mobility surge,
- mainstreaming Building Automation and Control Systems (BACS) in buildings and facilitating access to their data,
- reshaping the Primary Energy Factor (PEF) to remove inconsistencies and improve energy performance of buildings.

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### ***1. Invest in the modernisation and safety of electrical systems in buildings***

The EU Renovation Wave seeks to at least double energy renovation rates in the EU's building stock in order to improve the energy performance of buildings and contribute to climate neutrality by 2050. To be successful, **the modernisation of electrical systems in buildings must be considered to a larger extent in the revised EPBD.**

**The modernisation of electrical systems is key to decarbonise European buildings and encompasses two main components: renovation and upgrade.**

- Renovation: reliable electrical systems and wiring are necessary to support the scale-up of electrification needed to reach our climate targets, while ensuring electrical safety.
- Upgrade: electrical systems can also be upgraded by making buildings digital, in order to dynamically adjust energy consumption and maximise efficiency and comfort.

Indeed, to implement the EU's new climate targets, such as the 2021 RED proposal to reach 49% of renewables in buildings, citizens and companies will be pushed to, for instance, install solar panels or electric vehicle (EV) chargers in buildings. **However, this transition must take into account the necessary renovation of electrical systems, to ensure that they can cope with these increases in electrification and avoid both energy losses and fire hazards. Digital buildings upgraded with automation and energy management can also further contribute to energy efficiency.**

Currently, European buildings are ill-equipped to deal with this scale up of electrification and increased loads. In [Germany](#), 70% of buildings have outdated switch boxes and wiring that need replacing. In [France](#), 2/3 of houses built over 15 years ago suffer from electrical hazards. Electrical fires currently account for [25-30%](#) of all domestic fires in Europe. Besides, homeowners regularly engage in renovations, but they tend to focus on more visible areas such as kitchens or bathrooms, while cables in the walls do not bring enough obvious increases in comfort to be renovated unless mandatory.

**Financial and/or regulatory measures should be implemented to incentivise building owners to modernise electrical systems.** Too often, including in national recovery plans, incentives related to renovation overlook electrical systems.

A good starting point would be to **mandate regular inspections** of electrical systems in Europe. It would both trigger renovations when necessary and provide for a higher degree of electrical safety in

buildings. Periodic inspections are already mandatory in several member states as well as inspections linked to the installation of new devices, such as solar PV or heat pumps.

⇒ **The Long-Term Renovation Strategy framework should be amended to encompass the modernisation of electrical systems and ensure safety** as follows:

-Add article 2a(1)(h): “an overview of policies and actions to support system integration in buildings and electrification of heating, cooling and transport, while preserving and ensuring electrical safety”

-Amend article 2a(7): “Each Member State ~~may~~ **shall** use its long-term renovation strategy to address fire and electrical safety, through funding provisions and inspection schemes for periodical or ad-hoc safety checks of electricity systems; as well as risks related to intense seismic activity affecting energy efficiency renovations and the lifetime of buildings”

⇒ **It is key to take electrical systems into account when assessing and regulating technical building systems (TBS)** as follows:

-Amend article 2 definition of TBS: “means technical equipment for space heating, space cooling, ventilation, domestic hot water, built-in lighting, building automation and control, on-site electricity generation, or a combination thereof, including those systems using energy from renewable sources, of a building or building unit, and including electrical systems used to power such systems or transmit the electricity generated by such systems”

⇒ Should provisions for Minimum Energy Performance Standards be included in the upcoming EPBD, they must be accompanied by a **dedicated social funding instrument to alleviate the costs of energy renovations, especially for disadvantaged households, and include all relevant building elements such as electrical systems.**

⇒ **Mandate periodic inspections for electrical systems in buildings as well as inspections linked to installation of new loads behind the meter**, in a similar spirit to Articles 14 and 15.

## **2. Make buildings ready for the e-mobility surge**

The Fit for 55 package has already confirmed the massive upcoming shift in personal mobility with, among others, new CO2 standards for cars and vans of 0gCO2/km by 2035. By then, new fossil cars won't be allowed anymore and EVs will be ubiquitous. This means all our buildings will have to be charging-ready by that date (keeping in mind that 80%-95% of charging takes place at home, work or in other buildings). **As the revised EPBD will most likely come into effect in the second half of this decade, it should ensure that all parking spaces newly built or renovated from that date on are charging-ready.**

**Electrical contractors, directly responsible for installing, operating and maintaining electrical systems and charging points, can report that making buildings “charging ready” does not require excessive investments, only careful planning.** Indeed, initial planning for charging readiness is 6 to 8 times cheaper than retrofits for single-family houses and 3 to 3.5 times cheaper for multi-occupancy buildings. Charging in buildings is currently addressed in a narrow way in the EPBD and must be viewed more comprehensively. EuropeOn considers that charging readiness implies 2 key conditions:

- **Mandating ducting infrastructure (namely conduits for cables) for all parking spaces in both residential and non-residential buildings**, as ducting is always cost-effective. Besides, cabling should be provided simultaneously when cost-effective.
- Ensuring that EV chargers can be installed at each parking space in the near future by, in particular, **providing enough space in technical rooms and sufficiently large switch boards.** This is a crucial aspect of charging-readiness that has been overlooked in the EPBD so far.

For multi-occupancy buildings, administrative procedures must be streamlined in several member states to ensure consumers face a smooth process in their switch to e-mobility. **A true ‘right to plug’ must be implemented** across Europe (as e.g. in France, Spain or Norway). Regulated entities must be required to answer grid connection requests in a timely manner and simple notification procedures must become the norm.

- ⇒ **Amend article 8(2) to mandate at least ducting infrastructure for all parking spaces in both residential and non-residential buildings.**
- ⇒ **Amend article 8(2) to mandate a coherent approach to charging readiness, therefore including sufficient space for technical rooms and switchboards**, ensuring all electrical equipment that has to be installed by any (subsequent) EV owners can be installed without any works to the building itself and/or to its infrastructure.
- ⇒ **In line with the recent proposals for RED and AFIR, make smart charging mandatory in all buildings.**
- ⇒ **Add a paragraph to article 8 to implement a simple notification procedure for grid connections, in line with REDII article 17(1). When simple notification is not possible, mandate regulated entities to complete 50% of the grid connection and approval process under a week and 100% within a month.**
- ⇒ **Amend article 8(7) to implement a true right to plug:** “Member States shall ~~provide for measures in order to simplify~~ enable the deployment of recharging points in new and existing residential and non-residential buildings and ~~address possible~~ remove regulatory barriers, including permitting and approval procedures, without prejudice to the property and tenancy law of the Member States.”

### ***3. Mainstream Building Automation and Control Systems (BACS) in buildings and facilitate access to their data***

**Building automation and control systems are an all-round solution to energy efficiency, integration of renewables, cost reductions, consumer engagement and information and building-related data generation.** Most importantly, with a supportive regulatory framework, BACS could achieve [17%](#) of the EU Green Deal 2030 GHG emission reduction target.

The full potential benefits of BACS, especially with regards to energy savings, can only be reaped if this technology is mainstreamed to as many buildings as possible, including medium to large residential buildings. **In line with [other stakeholders](#), we suggest a new mandatory threshold for BACS installation set at 70kW of heating or cooling effective power output for both residential and non-residential buildings.** This threshold would still only apply to larger buildings (e.g. in the residential sector, it only encompasses multi-occupancy buildings), remain cost-effective and would greatly improve energy performance.

Furthermore, the data generated by BACS and energy management devices can be used by third party service providers to offer energy services that can further optimise energy consumption, reduce losses, and lower energy bills for consumers. **However, data generated by buildings through their BACS are not accessible to all relevant third parties and consumers are not empowered to decide on who is allowed to handle their data.** The EPBD must provide for a consumer-centric and competitive energy services market by opening data access to all relevant players.

Besides, the minimum requirements for BACS in terms of functionality should include **real-time information** or at least dynamic information in a user-friendly format, while remaining cost-effective.

Finally, **harmonisation between the EPBD and the EED** is needed to clarify definitions for BACS and 'Energy Management System' as there is overlap between the two concepts. This will contribute to growing the market and other benefits stemming from building-related data.

- ⇒ **Articles 14 and 15 should be amended to require Member States to ensure that all residential and non-residential buildings with a heating or cooling power output of at least 70kW are equipped with BACS by 2030, where technically and economically feasible.**
- ⇒ Article 8(1) and/or Articles 14 and 15(7) (new) should **set out rules for access to building and BACS data** similar to 2021 RED proposal in article 20a(2) on access to battery data for "consumers and third parties acting on their behalf".
- ⇒ Articles 14 and 15(4) should add a **new sub-point to include smart charging capabilities as well as dynamic or real-time monitoring of energy consumption as minimum BACS functionalities.**

#### ***4. Reshape the Primary Energy Factor (PEF) to remove inconsistencies and improve energy performance of buildings***

Electricity has been decarbonising rapidly (with [renewables becoming the first source of electricity](#) in 2020 and [consistently growing](#) in the first semester of 2021) and in some member states, it is poised to be [fully climate neutral by 2030](#). However, in **the current PEF framework**, electricity is strongly disadvantaged compared to fossil fuels, hampering the decarbonisation of our building stock, **undermining the achievement of the RED proposal to reach 49% of renewables in buildings by 2030 and holding back system integration at building level.**

Additionally, while electrified devices are far more efficient than fossil alternatives (e.g. replacing a fossil-fuel based boiler with a heat pump using clean electricity [saves two thirds of primary energy](#)), the current PEF for electricity unfairly hampers the business case of electric heating/cooling and transport. Such a PEF unfavourably misrepresents the contribution of electric vehicles and heat pumps in energy efficiency and performance calculations when expressed in primary energy, even though they are the most efficient options.

**The PEF should be heavily reshaped to drive decarbonisation in a more targeted way by focusing on what matters, i.e. GHG reductions, and could be amended similarly to the 2021 RED proposal concerning the share of renewables in transport, which has moved from calculating shares in terms of quantity of energy to GHG-intensity of energy consumed.**

- ⇒ **Review and decrease the PEF in line with power sector decarbonisation.**
- ⇒ **Heavily reshape the PEF to include GHG-intensity of energy carriers in methodology.**