

For a “Fit for 55” EPBD recast trilogue

Recommendations for the trilogue on the recast of the Energy Performance of Buildings Directive (EPBD)

May 2023

We call on co-legislators to particularly support following considerations included into the European Parliament’s position on the Energy Performance of Buildings Directive (EPBD) adopted on 14th March 2023:

- **Minimum Energy Performance Standards (MEPS) must be aligned with the fit for 55 objectives.** We consider that the European Parliament position is a well-balanced compromise combining a clear investment framework with a sufficient level of exemption and the right attention to social protection. **This level of ambition is a minimum to** secure the contribution of buildings to EU’s carbon neutrality, energy efficiency and renewable energy objectives.
- **We support the Parliament proposals to consider electrical installations as Technical Building Systems in Art 2 and related provisions ensuring their energy efficiency, safety and readiness for energy transition, and adequate information to consumers.** Electrical installations play a critical role in the energy performance of buildings, enabling the efficient consumption of electricity and production of renewable energy and storage as well as facilitating system integration.
- **We support the Parliament position on Art 12 securing pre-cabing** for all types of buildings during construction or major renovation for seamless installation of re-charging points at later stage.
- **We support the Parliament references to heat recovery and urge to consistently complement Annex I** to address the untapped energy saving potential of wastewater heat recovery of domestic hot water systems.
- **We support the inclusion of the benefits from reuse and recycling at the end-of-life** into the definition of “whole life-cycle greenhouse gas emissions” in Art 2.

Minimum Energy Performance Standards must be “fit for 55”

We welcome Minimum Energy Performance Standards (MEPS) as an effective tool to address persistent barriers to energy renovation, incentivise private investments, and unlock the innovation potential in the buildings sector.

With a stubbornly low renovate rate across the EU at only 1%, and a highly fragmented sector with over 95% SMEs, setting a clear regulatory framework with the EPBD could have a transformative effect in delivering the Renovation Wave, for the benefit of citizens and businesses, and for the planet.

Providing long-term perspective will be essential to pave the way for the relevant financing schemes and the necessary support measures, and it is also needed to train and upskill construction workers on the ground.

Electrical installations – the backbone of zero-emission buildings

Electrical installations play a critical role in the energy performance of buildings, enabling the efficient consumption of electricity and production of renewable energy and storage as well as facilitating system integration.

Up-to date and adequately dimensioned electrical installations are a pre-requisite to integrate the energy performant devices already available today, such as **solar PV, battery storage, heat pumps, EV recharging points and Building Automation and Control Systems (BACS)**. As stated in the energy system integration strategy, electrification is expected to “play a central role” in buildings’ efficiency and their ability to interlink various aspects of our energy systems. Therefore,

ECI supports the EU Parliament proposals to

1. Define electrical installations (Art. 2, 6c)
2. Include electrical installations into the definition of Technical Building Systems (Art 2.6)

Inspections of electrical installations to ensure their safety and readiness

As electrical installations are the backbone of zero-emission buildings, addressing their safety and readiness is paramount.

- **Electrical/fire safety:** the inspection of electrical installations must be a safety priority, as 30% of all domestic fires and 50% of all domestic accidental fires have an electrical source¹. Considering also that vulnerable communities including citizens suffering from energy poverty are more

¹ Source: <https://feedsnet.org/>

sensitive to electrical safety concerns, it is crucial to improve electrical safety in domestic buildings.

- **Readiness of electrical installations:** it is estimated that a minimum of 130 million dwellings, built before 1990, have not undergone an electrical system upgrade. While the energy transition, decarbonisation and energy efficiency will drive further electrification of buildings the integration of highly efficient equipment or on-site renewable generation & storage requires up to date electrical installations. Building owners should be informed about the status and readiness of the electrical installations particularly in the view of electrification of heating and transport.

Therefore,

ECI supports the EU Parliament proposals to:

1. Assess the **energy efficiency of electrical installations** of non-residential buildings as part of existing safety inspections schemes, with due regard to the available standard for their optimal design, dimensioning, management and monitoring. (Art 20, 4)
2. Assess the **readiness of TBS to work with renewable energy sources** as part of EPBD inspection (HVAC > 70kW). (Art 20, 4)
3. Ensure new and existing buildings adhere to & comply with **fire safety standards**. (Art 7, 4 & Art 8, 3)
4. Ensure the regulatory frameworks provides the necessary administrative, technical and financial capacities and incentives for the deployment of solar energy in buildings, **including in combination with technical building systems** (Art. 9a, 7) & **fire safety of solar energy installations in buildings, including in combination with technical building systems** (Art. 9a, 9)
5. Include in NBRPs policies and measures to increase fire safety (ANNEX II, (c)) and stronger focus of **NBRPs to ensure electrical and fire safety** (Recital 29)
6. Maximize co-benefits of improvement of energy performance of buildings such as **fire and electrical installation safety** (Recital 11), **addressing fire & electrical safety** in the concept of “deep renovation” (Recital 33), development of **national electrical inspections regimes** to ensure that electrical installations are safe and ready for new uses aiming to achieve zero-emissions buildings (Recital 35c) and inclusion of **electrical installations** into regular maintenance and inspection regimes (Recitals 53, 54)

Energy efficiency of electrical installations

The Energy Efficiency First principle in the building sector is paramount, particularly with the current energy prices crisis.

Optimisation of energy efficiency of electrical installations - 2% of the electricity generated in the EU (64 TWh/year) is lost in behind-the-meter networks² and roughly half of it could be avoided by optimisation of electrical installations of buildings. Final energy saving potential according to the Ecodesign Preparatory Study Scenario³ reaches 7.6 TWh/y (0.65 Mtoe/y) by 2025 and 28 TWh/y (2.4 Mtoe/y) by 2050. Given the rising importance of electricity use in the future European economy such savings will have even greater impact. Therefore,

ECI supports the EU Parliament proposals to:

1. Integrate the **efficiency of electrical installations** (IEC EN 60364-8-1) into the EPBD calculation methodology (ANNEX I, point 4, (ib))
2. Optimise the **energy performance of the system when TBS is retrofitted or replaced** (Art 8, 2a)
3. Consider the relevant **economic and environmental optimisation standards for the dimensioning of TBS** (Art. 11, 1)

Availability of information

Information on status of electrical installation, as critical infrastructure for decarbonisation of buildings shall be available for consumers. Therefore, the EPBD recast is an opportunity provide at least following:

ECI supports the EU Parliament proposals to:

1. Provide information on **wider benefits related to fire & electrical safety into Renovation Passports** (Art. 10, 3(cc))
2. Ensure that the **replacement of obsolete and inefficient TBS** is part of the **steps set out in a renovation passport**, in accordance with the energy efficiency first principle. (Art. 11.1)
3. Inform the owners, tenants and facility managers of buildings of the different methods and practices that serve to enhance the energy and emission performance, **fire, electrical, and seismic safety** of a building. (Art. 26. 1)

Energy Performance Certificates would be ideal tool to integrate information on the status of electrical installations.

² [White paper economic conductor size optimisation in buildings](#), ECI, December 2020

³ Preparatory Studies for Product Group in the Ecodesign Working Plan 2012-2014: [Lot 8 - Power Cables, Task 1 -7 report](#)

Infrastructure for sustainable mobility and smart charging

The proposed strengthening of the e-mobility requirements for buildings with several parking places (pre-cabling, smart charging and right-to-plug) will support the deployment of electric vehicles (EVs).

If a building is not pre-cabled in the construction or major renovation phase, it can be 9 times more expensive to install cables in the latter stage. It would lead to highly cumbersome discussions with project developers which can take over 6 months in problematic cases to install a charging station. The pre-cabling should cover both technical and electrical installations for the seamless future installation of recharging points.

ECI supports the EU Parliament proposals on:

1. Pre-cabling requirements for all types of buildings during construction or major renovation for seamless installation of re-charging points at later stage (Art. 12)

Untapped energy saving potential of wastewater heat recovery

Wastewater Heat Recovery (WWHR) is an available and effective energy efficiency solution to reduce the energy demand for domestic hot water via the direct heat recovery from shower drains. It can save around 40 percent of final energy and related CO₂ emissions from domestic hot water production. Requiring Member States to integrate the heat recovery characteristics of the hot water system into their calculation method (EPBD Annex 1) can unlock a potential of 4.5 Mtoe final energy by 2030 according to a study of the European Commission⁴, therefore:

ECI supports the EU Parliament proposals of:

4. Recitals 14b, 12 and 20 on wastewater heat recovery

ECI asks to:

1. **Readdress the issue of heat recovery of hot water systems, and integrate it under ANNEX I – point 4 – point (b), as per the ENVI Opinion and four AMs in ITRE:**

(b) heating installation and hot water supply, including their insulation characteristics *and heat recovery*;

^{4 4} Technical assistance services to assess the energy savings potentials at national and European level: [Summary of EU results](#) and [Member state annex report](#)

Whole life-cycle greenhouse gas emissions and circularity

The calculation of whole life-cycle greenhouse gas emissions must take into account the recyclability and reusability of materials to ensure products used today will not be the waste of tomorrow.

The construction sector accounts for nearly half of all waste generated in the EU, and this will not change unless circularity at the end-of-life is taken into consideration and not just in product manufacturing. For metals, reusability and recyclability aspects are only partly reflected at the production stage and should be complemented from a whole life cycle perspective through the additional benefits resulting from the end-of-life stage (reported under Module D).

ECI supports the EU Parliament proposals to:

1. Include the **benefits from reuse and recycling at the end-of-life** into the definition of “whole life-cycle greenhouse gas emissions” (Art. 2, 23)

About the European Copper Institute

The European Copper Institute (ECI) is the leading advocate for the copper industry in Europe and the European arm of the International Copper Association (ICA). Our members mine, smelt, refine and recycle copper for use across the economy, in the electricity system, buildings, transport and industry.

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Electrical installations – the backbone of zero-emission buildings

Overview of the EP proposals on EPBD related to electrical installations

Article 2 Definitions

6c. New definition of *electrical installations*



Article 2 Definitions

6. *electrical installations* added to the definition of *Technical Building Systems (TBS)*



Article 9a Solar energy in buildings

- 7. Deploy solar rooftop in combination with TBS
- 9. Ensure the fire safety of solar energy installations in combination with TBS

Article 7 & 8 New & Existing buildings

- adhere to & comply with fire safety standards

Recital 29 & Annex II, (c) NBRP

- NBRPs to ensure electrical and fire safety

Recitals

- (11) Maximise co-benefits such as electrical safety
- (33): The concept of deep renovation to improve electrical safety
- (35c): MS to develop national electrical inspections regimes
- (53): Regular maintenance and inspection of electrical installations

Article 20 Inspections (>70kW)

- 4. Assess readiness of TBS to work with RES

- 4. Assessment of the energy efficiency of electrical installations as part of existing safety inspections of non-residential buildings

Article 12 Infrastructure for sustainable mobility

- Maintain pre-cabling requirements to enable seamless installation of recharging points at later stage
- efficient use of recharging points

Annex I

- 4. (jb) Efficiency of electrical installations (IEC EN 60364-8-1)

Article 11 TBS

- 1. Economic & environmental optimisation standards for dimensioning of TBS

Article 8 Existing buildings

- 2.a When TBS is retrofitted or replaced, the energy performance of the system is optimised

Article 10

- 3 (cc) Benefits related to safety such as fire and electrical safety into **Renovation Passport**

Article 26 Information

- 1. MS to inform about enhancing fire and electrical safety

Article 11

- 1. Replacement of obsolete and inefficient TBS is part of the steps set out in a **Renovation Passport**

✓ SAFETY & READINESS

✓ ENERGY EFFICIENCY

✓ AVAILABILITY OF INFORMATION