

Stakeholder workshop #1 for the revision of the Energy Performance of Buildings Directive 2010/31/EU: Setting a vision for buildings and a decarbonised building stock

Answers by the European Copper Institute (ECI)

Questions for the first workshop:

1. How can we strengthen and better promote the decarbonisation of the building stock through buildings performance in the EPBD?

- It is important to stress that current EPBD should be fully adopted by MS – e.g. existing provisions on BACS are not transposed by all MS yet, as well as new NZEB provisions.
- a) What could be the role, for instance, of new GHG metrics, the Energy Efficiency First Principle, whole life-cycle emissions indicators?**
- New GHG metrics should avoid penalising electrification of heat (heat pumps in particular) by updating the Primary Energy Factor (PEF)
 - Energy Efficiency First Principle is paramount and special focus should be given to the broader system level (energy system level efficiency is not the same as individual building efficiency); electrification as the most cost-effective way to deliver this energy system level efficiency, including demand-side management (DSM) programmes to provide power systems flexibility services to the smart-grid and updating the Primary Energy Factor (PEF).
 - We support greening of the construction sector where whole life cycle emissions indicator should play a key role in the future. Correct modelling (e.g. inclusion of the recycling potential of building products at the end-of-life phase) and use of data is critical to build a robust environmental footprint system and meet the demand for sustainable buildings. Mature methodologies for whole life cycle emissions and interlinkages with product level legislation (CPR) are still needed, so too early adoption may risk diluting the strength of the EPBD in improving energy performance of buildings while making its implementation for Member States more complex.
- b) Are new elements needed on top of the existing framework?**
- **Introduce a metric for the quantification of demand-side flexibility at building and/or district level** – EPBD should avoid looking at buildings in isolation as they are at the crossroads of the electricity, heating, and transport sectors. Electrified buildings can maximise the benefits of heat and transport decarbonisation by fostering demand-side flexibility (DSF) through the provision of storage capacity, load shifting capability and integration of renewable power. They are a prerequisite to smart electrification of heat (mass deployment of heat pumps) and transport (BEVs) as the most energy and cost-efficient ways to decarbonise both sectors. A metric for the quantification of demand-side flexibility at building or district level, as a new element, could include electric (e.g. smart EV charging connected to BACS) and thermal storage capacity (water tank).

2. What EPBD provisions should be reviewed with priority to promote and improve the decarbonisation of buildings and how?

- a) Is a new definition and requirements for nearly zero-energy buildings (NZEB) needed? Going beyond NZEB? For both new and existing buildings?**
- First to fully introduce current measures, then a gradual strengthening and more converging EU technical definition should be adopted as the current national variations in definition lead to varying levels of ambition.
- b) Should the cost-optimal framework be revised?**

- Technical Building Systems should play a significant role in Member States' cost optimality calculations. The same goes for "high-efficiency alternative systems" as mentioned for new buildings in Art. 6 EPBD 2010 (European Parliament and the Council of the European Union 2010); these high-efficiency systems comprise e.g. decentralised renewable energy systems, district heating, heat pumps etc. As these systems are set to increase their share in the future European energy system, they should play a significant role in cost-optimality calculations and ideally turn out to be cost-optimal in order to get a competitive push. Buildings built today according to cost-optimality results will influence the building stock and the energy system for decades.
- c) Should the scope of the long-term renovation strategies (LTRS) be revised?**
- Yes, to match the new targets of the Renovation Wave.
 - Building renovation programmes should specifically support the modernisation of heating systems by their replacement with renewable technologies.
 - National building renovation strategies should specifically address the transition from fossil fuel to renewable and climate neutral heating with related investment plans.
- d) Are new minimum requirements and benchmarks needed?**
- Yes, and the phased introduction of mandatory minimum energy performance standards (MEPS) for different types of buildings (public and private, non-residential and residential) should rely on operation-based performance data.
- e) What should be the role of Energy Performance Certificates (EPCs) and Building renovation Passports (BRPs) in promoting decarbonisation? What should be the place and role of the Smart Readiness Indicator (SRI)?**
- Digitalization of Energy Performance Certificate (EPC) schemes would make them more dynamic and informative, with more frequent updates based on credible standards with verification. Available advanced metering and Building Automation and Control Systems allow inclusion of actual consumption data (as opposed to deemed savings approaches) into the digital energy performance certificate to ensure energy and CO₂ savings in buildings are real. Operation-based energy performance standards deliver huge energy and CO₂ savings, and provide buildings that can evolve with the needs of the energy transition.
 - Building Renovation Passport (BRP) is a key element to overcome operational, financial, as well as social barriers of renovation, to support building owners with personalised advice, and to ensure coordination of works during staged renovations. BRPs may complement EPCs, increase renovation rate and depth, accelerate energy savings as well as integrate important non-energy related recommendations, like improvement of safety standards (e.g. electrical, fire) of buildings.
 - Member States should deploy the SRI and align to the common methodology approved at the EU level as much as possible, with the same qualification of experts to build a harmonised tool across the EU. This would enable and facilitate analysis and comparison of the readiness level in different Member States and regions providing the basics for an inclusive and streamlined updating process. The European Commission should monitor the implementation without hesitation and to put in place all measures to ensure consistency and avoid fragmentation in their bilateral exchanges with the Member States and also consider issuing recommendations, when necessary.
- f) How to best monitor and report progress towards the decarbonisation of buildings?**

3. What are the interlinkages with the EED, REDII and other EU legislative measures that should be ensured?

EED

- Phasing out fossil fuels in heating systems (buildings and district heating), ban of fossil fuels in new buildings, replacing them by higher efficiency, sustainable solutions
- Revision of the Primary Energy Factor
- Public support to non-fossil fuel technologies only
- The recovery of waste heat from heating and cooling systems, including shower water, in individual buildings should be promoted
- Industrial excess heat for district heating
- Linking financial measures for energy efficiency improvements in renovations to results achieved based on real energy savings (metering, digitalisation, BACS)
- Exemplary role of public bodies' buildings to be strengthened in both regulations
- Promotion of better energy management of large buildings

REDII

- (Mandatory) minimum percentage of renewable energy in the energy use of new buildings or buildings subject to major renovation
- Annual increase rate for renewable energy used in heating and cooling (current 1.3%)
- Annual increase rate for renewable energy used in district heating and cooling and provisions on access to district heating networks (current 1 %)
- Direct renewable electricity use (in electric heat pumps using ambient energy)
- Direct renewable heat use (from sustainable biomass, geothermal, solar thermal...)

08 April 2021

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