# Policy recommendations on the Energy Performance of Buildings Directive trilogue negotiations

## smartEn comparative analysis of the positions of the 3 European institutions

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## Introduction

Buildings in the EU currently account for 40% of the European energy demand, their consumption is 75% inefficient and are responsible for 36% of CO2 emissions. It is therefore crucial to improve their energy and carbon performance, notably by stimulating prosumer business models and their integration in the energy system.
The revision of the Energy Performance of Buildings Directive (EPBD) is the key EU legislation to achieve this objective and transform buildings into carbon neutral, flexible energy assets.
This document aims to provide a comparative analysis on the co-legislators positions for the EPBD revision, giving recommendations for the trilogue negotiations[1].

To guide policymakers during the negotiations, smartEn adopted **policy recommendations** based on **three principles** and classified in provisions to **SUPPORT**, **IMPROVE**, **OPPOSE** for the following key, selected articles:

- Art. 1 (Subject matter)
- Art. 2 (Definitions)
- Art. 3 (National Building Renovation Plan)
- Art. 3a (Integrated District Approach to Building Renovation)
- Art. 5 (Setting of Minimum Energy Performance Requirements)
- Art. 7 (New Buildings)
- Art. 8 (Existing Buildings)
- Art. 9 (Minimum Energy Performance Standards)
- Art. 9a (Solar Energy in Buildings)
- Art. 9b (Zero Emission Buildings)
- Art. 10 (Renovation Passport)
- Art. 11 (Technical Building Systems)
- Art. 12 (Infrastructure for Sustainable Mobility)
- Art. 13 (Smart Readiness of Buildings)
- Art. 14 (Data Exchange)
- Art. 15 (Financial Incentives and Market Barriers)
- Art. 16 (Energy Performance Certificates)
- Annex I (Common General Framework for the Calculation of Energy Performance of Buildings)
- Annex II (Template for the National Building Renovation Plans)
- Annex III (Requirements for New and Renovated Zero-Emission Buildings and Calculation of Life-Cycle Global Warming Potential)
- Annex V ( Template for Energy Performance Certificates)
- Annex VII (Comparative methodology framework to identify cost-optimal levels of energy performance requirements for buildings and building elements)

# THREE KEY PRINCIPLES TO GUIDE SMARTEN POLICY RECOMMENDATIONS

The following principles inspire smartEn recommendations in view of the finalisation of the EPBD revision:

### 1. *ENSURE THE TRANSFORMATION OF BUILDINGS INTO SMART AND FLEXIBLE ENERGY ASSETS INTEGRATED INTO THE ENERGY SYSTEM*

smartEn welcomes the improvement made by the European Parliament in clearly highlighting the **contribution of active, flexible buildings to system efficiency as part of the core objective of the revised EPBD**. This is a major evolution towards the integration of buildings in the energy system. In this sense, **the added definitions in the Parliament's position of 'demand-side flexibility' and 'system efficiency' are paramount**.

[1] This document builds on smartEn previous position and amendments suggestions on the Commission's proposal.

**The extension of the scope of a 'zero-emission building' to renewable energy coming from the grid** is necessary to ensure the building's reaction to external signals and its ability to flexibility consume, generate or store clean energy. This would avoid considering buildings in isolation and ensure they are further integrate in the energy system. The new article 3a introduced by the Parliament aligns with this vision by considering a district approach for building renovation.

## 2. *INCENTIVISE THE UPTAKE OF PROSUMER BUSINESS MODELS THANKS TO THE ROLLOUT OF GRID-INTEGRATED BEHIND THE METER ASSETS*

smartEn supports the rollout of solar panels on different types of buildings, as put forward by the European Commission in REPowerEU with article 9a. It is a good start in supporting prosumer business models while ensuring most buildings generate on-site clean electricity. **This solar PV wave should be complemented with the development of flexible decentralised energy resources in buildings** capable of interacting with the energy system since this represents an important source of flexibility to support a cost-effective energy system.

A smart charging infrastructure is also key in turning Electric Vehicles (EVs) into energy assets, serving as a battery for the building and the local energy system. In this sense, **smartEn supports the mandate of smart charging and when appropriate bidirectional charging**, in line with the Alternative Fuels Infrastructure Regulation and the Renewable Energy Directive, for prosumers to reap the benefits of unleashing the flexibility of their EV batteries.

## 3. *SUPPORT THE DEVELOPMENT OF REAL-TIME MEASUREMENT OF THE ENERGY AND CARBON PERFORMANCE IN BUILDINGS*

**smartEn acknowledges the timid improvements towards real-time energy performance calculation**. The need for the Commission to develop a common certification scheme for energy efficiency meters in view of strengthening energy performance certificates with real-time measurement is welcomed. This should however not be limited to energy efficiency meters but to all energy performance metering systems, in order to embrace a wholistic approach and consider all metering devices, including certified sub-meters.

**The introduction by the Parliament of additional indicators on demand-side flexibility as part of the Energy Performance Certificate template** is a good improvement and further supports the integration of buildings into the energy system.

**The Smart Readiness Indicator is also a key tool to evaluate the smartness of a building and its flexibility potential**. It should be mandated for large non-residential buildings and be gradually extended to smaller non-residential buildings in line with the Building Automation and Control System requirements in article 11. It should also be integrated in the Energy Performance Certificate in order to avoid confusion.

**Access to data to building owners or occupants is key to empower them in the energy transition**. Article 14 contributes to put the user in control of their data and share data to third-party service providers. It should be specified that the rules for accessing the data shall not be discriminatory against third parties. Furthermore, interoperability requirements should be further detailed in future acts to be published by the European Commission.

The EPBD is one piece of the big puzzle. It needs to be consistent with the other 'Fit for 55' pieces of legislation – the Renewable Energy Directive, the Energy Efficiency Directive, the Alternative Fuels Infrastructure Regulation – to ensure **the contribution of all end-use sectors** towards the cost-effective EU 2030 55% EU's greenhouse gas emissions reduction objective. For more information about our policy recommendations on these files, please have a look here and here.

**Article 1: Subject matter**

*The improved article from the Parliament highlights the contribution of flexible buildings to system efficiency as part of primary goal of the EPBD revision. This is a major expansion in approach supporting a holistic view of building renovations that should be maintained during the negotiations.*

- **SUPPORT** §1 from the European Parliament which includes under the core objective of this Directive to reach a zero-emission building stock considering the building contribution to demand-side flexibility improving system efficiency

**Article 2: Definitions**

*smartEn welcomes the new concept of 'zero-emission building' put forward in the revised EPBD. The definition of such a concept should be improved to encompass all types of renewable electricity, be it on-site or off-site, in order to enable the building's optimised energy consumption and generation based on external signals.*

- **SUPPORT** the definition of 'zero-emission building' (§2) from the European Parliament which includes renewable energy coming from the grid, and considers the optimisation of the energy system through demand-side flexibility
- **SUPPORT** the definition of 'technical building system' (§6) from the European Parliament which includes EV charging stations under its scope
- **SUPPORT** the definition of 'metered' (§9b) from the European Parliament which includes all kinds of meter.

*Defining 'demand-side flexibility' and 'system efficiency' in secondary legislation is a major evolution and contributes to further recognise buildings as energy assets integrated in the energy system.*

- **SUPPORT** the definition of 'demand-side flexibility' (§6a) from the European Parliament which provides an accurate and complete overview of what demand-side flexibility covers
- **SUPPORT** the definition of 'system efficiency' (§6d) from the European Parliament which is an important step towards the extension of the concept of energy efficiency at system-level, but **IMPROVE** based on the following wording:

**"Energy System Efficiency" means an energy system that relies on efficient and flexible consumers that maximise the use of clean, available digital and decentralised energy resources to achieve climate neutrality in the most secure and cost-effective way. Improvements in decarbonisation, affordability and resilience shall be used as metrics to measures progress toward energy system efficiency"**

- **SUPPORT** the definition of 'energy performance of buildings' (§8) from the European Parliament which includes technical building systems under its scope

**Article 3: National Building Renovation Plan**

*This article sets important milestones and requirements for the building renovation. The alignment of the plan with the Energy Efficiency First Principle is necessary to incentivise buildings' flexibility. In the same way, the end goal of the plan should be to reduce carbon emissions, in particular operational ones.*
*This article should also serve to promote the rollout of all decentralised energy resources by providing clear targets for Member States.*

- **SUPPORT** §1 from the European Parliament which aligns national building renovation plans with the Energy Efficiency First Principle (EE1st principle)
- **SUPPORT** §1(e) from the Council which includes operational greenhouse gas emissions for new and renovated zero-emission buildings thresholds, as part of the national building renovation plan
- **SUPPORT** §2 (b) (g) from the European Parliament which requires a pathway with numerical targets for heat pumps and solar energy in buildings, but **IMPROVE** by extending this requirement to all decentralised energy resources.

- **SUPPORT** §2 (b) (i) from the European Parliament which includes GHG emissions savings as part of the roadmap, which may take an integrated district approach, but **IMPROVE** by making mandatory the integrated district approach.

**Article 3a: Integrated District Approach to Building Renovation**

*This new article introduced by the European Parliament ensures that buildings are not considered in isolation but as part of the local energy system.*

- **SUPPORT** §2 from the European Parliament which requires Member States to consider at a district level the optimisation of the energy system in accordance with the energy efficiency first principle, while promoting demand-side flexibility

**Article 5: Setting of Minimum Energy Performance Requirements**

*The current EPBD provisions regarding the minimum energy performance requirements are inadequate as they only target the building elements that form part of the building envelope. Instead, the building contribution to the local energy system through demand-side flexibility should be highlighted and taken into account when setting such requirements.*

- **SUPPORT** §1a from the European Parliament which includes flexible electric space heating, and minimum demand response capacity as part of an optional intermediate minimum energy performance requirement to be achieved but **IMPROVE** by making this requirement mandatory and extend beyond the building envelope to any linked parking lot.

**Article 7: New Buildings**

- **SUPPORT** §4a from the European Parliament which phases out the installation of new fossil-fuel heating systems in new buildings but **IMPROVE** by narrowing the exemption for renewable-compatible boilers.

**Article 8: Existing Buildings**

- **SUPPORT** §3a from the European Parliament which encourages the use of digital technologies for analysis, simulation and management of buildings
- **SUPPORT** §3b from the European Parliament which phases out the installation of new fossil-fuel heating systems in existing buildings but **IMPROVE** by narrowing the exemption for renewable-compatible boilers.

**Article 9: Minimum Energy Performance Standards**

*Minimum Energy Performance Standards are useful requirements to guide the renovation of existing buildings. The more ambitious they will be, the more ambitious the renovation of buildings will take place. Ultimately, their achievement should lead to decarbonise the building stock.*

- **SUPPORT** the enhanced targets put forward from the European Parliament which increases the general ambition of the article.
- **SUPPORT** §3 from the Council which indicates that operational GHG emissions may be taken into account as part of the trajectory for the renovating the building stock

**Article 9a: Solar Energy in Buildings**

*This new article introduced by the Commission as part of the REPowerEU plan should be used as an opportunity to ensure the smart interaction of buildings into the energy system. It is key to go beyond the rollout of solar PVs*

*on buildings to support the development of all flexible decentralised energy resources in buildings capable of interacting with the energy system since this represents an important source of flexibility to support a cost-effective energy system.*

- **SUPPORT** §2 from the European Parliament which links the installation of solar energy in existing buildings undergoing major renovation with the rollout of DERs such as heat pumps, EV charging infrastructure, electricity storage or building automation and control systems
- **SUPPORT** §8 from the European Parliament which reaffirms the need to have level playing field and fair remuneration for active customers and energy communities and require relevant stakeholders to take into account the procurement of flexibility resources when assessing the distribution system needs. **CLARIFY** that it refers to 'flexible distributed energy resources', instead of 'flexible distributed energy generation' which is addressing only a type of decentralised resources (the others being energy storage including from EVs and demand management), to be consistent with Directive 2019/944.
- **OPPOSE** §2 from the Council which creates exemptions for the solar rollout based on multiple criteria, including the stability of the electricity network.

**Article 9b: Zero Emission Buildings**

*This new article from the Council details what should be included under the scope of a 'zero-emission building'. It is crucial that such a definition includes all renewables sources, whether be it on-site or off-site.*

- **SUPPORT** §1a (a) from the Council which includes renewables coming from the grid under the scope of a zero-emission building
- **OPPOSE** §1a from the Council which only considers the total annual primary energy use for new and renovated zero-emission buildings

**Article 10: Renovation Passport**

*The multiplication of available tools for measuring the renovation progress or the energy performance of a building makes it confusing for consumers. Instead, such initiatives should be included under the same certificate. Hence, renovation passports should merge the harmonised framework of Energy Performance Certificates, the Smart Readiness Indicator and the Digital Building Logbook.*

- **SUPPORT** §2 from the Council which opens the door for the integration of the renovation passport in the Energy Performance Certificate
- **SUPPORT** §3a from the Parliament which links the integration of the renovation passport in the Digital Building Logbook

**Article 11 : Technical Building Systems**

*Technical building systems are key components of buildings and their uptake should be supported. They are decentralised energy resources which allow for the energy management of buildings, while making them smart and flexible assets.*

- **SUPPORT** §1 from the European Parliament which indicates that system efficiency and the energy efficiency first principle shall be taken into account when using the equipment in view of optimising the energy use of technical building systems
- **SUPPORT** §4 from the European Parliament which requires technical building systems be improved, not just assessed
- **SUPPORT** §4a from the European Parliament which provides a timeline with targets for the installation of building automation and control systems in different types of buildings
- **SUPPORT** §4b from the European Parliament which set requirements for new residential buildings of above 70kW from 2025 to be equipped with balancing functionalities (b) and demand-side flexibility functionality if technically and economically feasible (c).

**Article 12: Infrastructure for Sustainable Mobility**

*Supporting the development of EV charging points in – or next to – buildings is crucial as they are the place where vehicles are parked more than 80% of the time. Ambitious requirements should be set and aligned with the current uptake of Electric Vehicles. In line with other legislations tackling charging infrastructure, namely the Renewable Energy Directive and the Alternative Fuels Infrastructure Regulation, new and renovated charging points should be smart for normal power chargers and bidirectional, if appropriate. However, bidirectional charging shall be mandated when a buildings has on-site renewable generation, as it would maximise the use of renewable energy. A 'right to plug' should also be ensured for tenants and building occupants, without the possibility to deny the installation of a charging point to enable their right to reap the benefits of their of the flexibility from their EV battery.*

- **SUPPORT** §6 from the Commission which mandates smart charging, and bidirectional charging if appropriate, operated based on non-proprietary and non-discriminatory communication protocols and standards, in an interoperable manner, for the installation of charging points covered by the Directive. **IMPROVE** by mandating bidirectional charging when there is on-site renewable energy generation on a building.
- **SUPPORT** §8 from the Commission which ensures a 'right to plug' for tenants and building occupants wishing to install a charging point. **OPPOSE** the positions from the Parliament and the Council which create a loophole by allowing a charging point not to be installed based on serious and legitimate grounds.

**Article 13: Smart Readiness of Buildings**

*As of now, the Smart Readiness Indicator (SRI) is the best available tool to measure the building's demand-side flexibility, although in qualitative terms. Its mandatory application should be linked with the deadline and scope for the implementation of the Building Automation and Control System requirements under Art. 11.*

- **SUPPORT** §2 from the European Parliament which ensures the mandatory requirement of the Smart Readiness Indicator for non-residential buildings with a rated output above 290kW from 2025, and lowers it to 70kW from 2030
- **SUPPORT** §4 from the European Parliament which moves forward the date to 31 December 2024 for adopting an implementing act detailing the technical modalities for the effective implementation of the application of the scheme for non-residential buildings above 290kW.

**Article 14: Data Exchange**

*Access to data is crucial for consumers – either individually or through energy service providers – to make informed choice about their buildings. Third party access shall be ensured and guaranteed non-discriminatory. Interoperability requirements should be defined by the European Commission through delegated and implementing acts after consultation of all relevant stakeholders.*

- **SUPPORT** §1 from the European Parliament which links building system data to the digital building logbook
- **SUPPORT** §2 from the European Parliament which specifies that rules on the access and any charges shall not constitute a barrier nor create discrimination for third parties to access the raw data of the building
- **SUPPORT** §5 from the European Parliament which foresees a consultation strategy setting out consultation objectives, targeted stakeholders and the consultation activities for preparing delegated and implementing acts detailing interoperability requirements and non-discriminatory and transparent procedures for access to the data

**Article 15: Financial Incentives and Market Barriers**

*This article should go beyond the combination of financial incentives with mere energy efficiency improvements. It should not only be linked with energy performance improvements, but also with carbon emission reductions to ensure the decarbonisation of the building stock.*

- **SUPPORT** §9 from the European Parliament which links financial incentives to reduced GHG emissions in the renovation of buildings. **IMPROVE** by also linking financial incentives with actual energy performance improvements based on real-time measurement

**Article 16: Energy Performance Certificates**

*The Energy Performance Certificate (EPC) is a key tool to provide the needed information on the energy performance of a building. Nevertheless, they have been criticised because of poor quality and a lack of harmonisation across Member States.*
*It is crucial that EPCs reflect the real-time energy performance, in order to show building residents with actual energy patterns on their consumption, generation and storage. In this sense, the EPC should already consider both primary and final energy use.*
*The SRI should also be integrated in the EPC in order to avoid a confusing multiplication of tools for consumers and raise awareness among Member States as well as further supporting the uptake of smart and flexible buildings*

- **SUPPORT** §1 from the European Parliament which specifies that Energy Performance Certificates (EPCs) should be based on primary AND final energy use
- **SUPPORT** §4 from the European Parliament which include recommendations on how to improve the Smart Readiness Indicator in the EPC
- **SUPPORT** §9a from the European Parliament which mandates the Commission to develop a common European certification scheme for energy efficiency meters to be used by member States, notably in view of strengthening energy performance certificates with real-time measurement. **IMPROVE** by expending it to all energy performance metering systems, including certified private sub-meters, not only for energy efficiency purposes.

**Annex I – Common General Framework for the Calculation of Energy Performance Certificates of Buildings**

*Annex I should ensure that the activation of the flexibility potential from all installed Decentralised Energy Resources, including on-site renewables, EV charging, demand-response and storage are fully recognised in the building's actual energy performance calculation.*

- **OPPOSE** §1 and §2 from the Council which requires monthly readings for metered energy used for calculating the energy performance of buildings, as it waters down the Commission's proposal and goes against the strive to real-time energy performance
- **SUPPORT** §1 from the European Parliament which includes the standard ***EN 52120-1*** as part of the list of standards to be considered by member States for their national calculation methodology
- **SUPPORT** §2 from the European Parliament which includes an estimation of the thermal responsiveness of the building and its capacity to offer flexibility to the energy grid as part of the calculation of the energy needs and energy use for space heating, space cooling, domestic hot water, ventilation, lighting and other technical building systems
- **SUPPORT** §4 (ba) from the European Parliament which includes capacity of installed on-site renewables, bidirectional electric vehicle charging infrastructure, demand-response and storage as part of the methodology to calculate the energy performance of buildings
- **SUPPORT** §5 (da) from the European Parliament which includes the demand-side flexibility capability to be taken into account as part of the methodology

**Annex II – Template for the National Building Renovation Plans**

*In line with article 3, this template should provide the necessary targets and indicators to fulfil the building renovation plans. It should incentivise carbon emissions reductions and provide targets for the rollout of all decentralised energy resources. Real-time measurement should also be promoted.*

- **SUPPORT** (a) from the European Parliament which specifies that annual operational greenhouse gas emissions should be part of the mandatory indicators
- **SUPPORT** (b) from the European Parliament which includes numerical targets for the rollout of heat pumps and solar energy as part of the roadmap for 2030, 2040 and 2050 but **IMPROVE** by extending this requirement to all decentralised energy resources.
  **SUPPORT** as part of the Targets the addition from expected greenhouse gas emissions to 'expected operational greenhouse gas emissions'
- **SUPPORT** (c) (od) from the European Parliament which includes measures to increase the coverage of the building stock with energy performance certificates or alternative real time measurement systems as part of the overview of implemented and planned policies and measures

**Annex III – Requirements for New and Renovated Zero-Emission Buildings and Calculation of Life-Cycle Global Warming Potential**

*This annex refers to the parameters to be taken into account when defining a 'zero-emission building'. The different elements that compose a 'zero-emission building' should be reflected here, including renewable energy generated off-site.*

- **SUPPORT** 1. §2 from the Parliament which includes energy being stored on-site as part of the total annual primary energy use to be counted for a new or renovated zero-emission building. **IMPROVE** by including renewable energy generated off-site. **IMPROVE** by including renewable energy stored on-site in the vehicle's batteries in the buildings parking or garage thanks to the building's bidirectional charging infrastructure.

**Annex V – Template for Energy Performance Certificates**

*This annex defines the indicators to be included in an Energy Performance Certificate. It is crucial that the ability of a building to flexibly consume, generate or store energy is highlighted as part of the mandatory indicators. The mandatory display of the SRI as part of the EPC will also drive further uptake and investments for digital solutions.*

- **SUPPORT** 1. (ic) from the Parliament which includes as part of the mandatory indicator to be indicated on the EPC front page whether a current building or dwelling can flexibly use energy
- **SUPPORT** 2. (qa) from the Parliament which includes as part of the mandatory indicator to be indicated on the EPC a yes/no indication whether the building has demand side flexibility capabilities
- **CLARIFY** by merging these two indicators in the EPC front page
- **SUPPORT** 2. §2 from the European Parliament which specifies that the value of supporting energy saving technologies should be included in the SRI as part of the EPC

**Annex VII – Comparative methodology framework to identify cost-optimal levels of energy performance requirements for buildings and building elements**

*The comparative methodology framework shall enable Member states to determine the energy and emission performance of buildings and the costs of measures in order to identify the cost-optimal level. This should include the contribution of buildings to the local energy system through their flexible management.*

- **SUPPORT** §4 from the European Parliament which includes the integration of buildings in the energy grid through grid flexibility, including through the use of smart charging points for electric vehicles, as part of the comparative methodology framework. **COMPLEMENT** by including the use of bidirectional charging points for electric vehicles.

## About smartEn - Smart Energy Europe

smartEn is the European business association integrating the consumer-driven solutions of the clean energy transition. We create opportunities for every company, building and car to support an increasingly renewable energy system. Our membership consists of the following companies:


The positions expressed in this document represent the views of smartEn as an association, but not necessarily the opinion of each specific smartEn member.
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