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Energy Performance Certificates: Development of EPC Policy Guidelines for Hungary

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EXECUTIVE SUMMARY

This document presents key policy measures and recommendations for Energy Performance Certificates (EPCs) in Hungary, within the framework of the EPBD.wise project. The overarching aim is to improve energy efficiency in the building sector, focusing on compliance, methodology refinement and digitalisation to align with national and EU objectives, based on the Energy Performance of Buildings Directive (EPBD).

The methodology used for each focus country was to first identify its policy needs, the types of intervention called for, and the priorities and policy measures required to address them. Policy needs for Hungary's EPC system include EPC design, rescaling and recommendations, EPC quality control, the EPC database, the introduction of the smart readiness indicator (SRI), and EPC communications and perception.

Key recommendations for Hungary are as follows:

- Strengthen EPC quality control by enhancing checks and enforcing stricter quality measures, including verification of data accuracy, automatic parameter validation, proactive monitoring with guidance on penalties, and risk-based approaches focusing on high-impact areas.
- Improve the EPC database by integrating multiple data sources, enabling easy digital and interoperable access, and ensuring regulated access for all relevant users.
- Implement EPC rescaling in line with the EPBD by 2029, making use of the harmonised A to G scale and preparing the necessary mechanisms in advance (Hungary already rescaled in 2023, and can benefit from the derogation period).
- Improve EPC recommendations so that they are more detailed and cost-oriented, and clearly linked with renovation advice for building owners and occupants.
- Introduce the SRI into the EPC framework to assess both energy efficiency and the smart capabilities of buildings, building on experience from ongoing EU projects such as tunES.
- Launch communications campaigns and create one-stop-shops to raise awareness and support the use of EPCs, helping users to understand energy costs and the potential for savings, and connecting them to one-stop-shops for renovation support.
- Develop a simplified EPC design using user-friendly digital tools and standardised templates to make certificates easier for non-expert audiences to understand and use.

List of abbreviations and acronyms

DBL	Digital Building Logbook
DGEG	Directorate General for Energy and Geology
EPBD	Energy Performance of Buildings Directive
EPC	Energy Performance Certificate
HES	Home Energy Scotland
MEPS	Minimum Energy Performance Standards
MS	Member State
NBRP	National Building Renovation Plan
NZEB	Nearly zero-energy building
RP	Renovation Passport
SRI	Smart Readiness Indicator
ZEB	Zero-Emission Building

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INTRODUCTION

1.1 Scope and objectives of the deliverable

This deliverable focusses on specific policy guidelines for each of the focus countries for which national partners defined EPCs as a priority under the EPBD.wise framework: these are Hungary, Greece, Hungary and Poland. The main objective is to assess different options for improving the EPC schemes in these countries under the new Energy Performance of Buildings Directive (EPBD) requirements. This assessment is based on the extensive work carried out in previous EPBD.wise tasks, namely the mapping of policy needs for each country and the identification of good practices in a wide range of topics such as communication and perception, quality control, expert training and qualification, database use and calculation methodologies, among others. The policy guidelines will consider different approaches based on best practice examples and the specific conditions in the target countries, reflecting the current status of their EPC systems along with any ongoing or planned modifications.

This document focuses on Hungary, and provides detailed policy guidelines for the development and improvement of its EPC system under the EPBD framework.

An initial attempt to define priority action plans is also developed by pinpointing priority interventions selected from the range of policy guidelines. Each roadmap outlines the steps required, ensuring a clear and actionable path forward as well as defining the specific stakeholders and their roles in this process.

The main aim of this deliverable is to match policy objectives with policy needs and mandates, particularly focusing on the EPBD. Specific policy needs can be addressed more effectively by leveraging the transposition of the EPBD. They will also be grouped to streamline the process and prepare the ground for replication.

1.2 Structure of the deliverable

Besides this introductory chapter which outlines the objective's structure and links with other policy elements of the EPBD, there are three main sections in this deliverable:

- The methodology section describes the approach used to develop the Policy Guidelines, including the methods used to collect and analyse data. It then focuses on the policy needs and the current implementation status of EPCs in Hungary.
- Next, the document presents EPC policy guidelines for Hungary. It outlines the opportunities for development in the current EPC system framework, and proposes options and scenarios for improvement. An action plan with initial steps is provided, along with a monitoring and evaluation framework that Hungary can apply to ensure the ongoing effectiveness of EPC schemes.

The last chapter details the main conclusions and recommendations for Hungary, and provides a short comparative cross-country analysis of policy gaps and opportunities to establish a replicable framework.

1.3 Interactions and inferences between EPCs and other policy instruments

The EPBD introduces significant changes to the framework for EPCs across Member States. A harmonised classification system from Class A to G must be implemented by 29 May 2026 (derogations apply), where Class A corresponds to zero-emission buildings (ZEBs) and Class G identifies the worst-performing buildings in the national stock. Member States that already apply an A0 class for ZEBs may continue this designation, with adjustments to the rest of the scale. The distribution of Classes B to F should ensure a suitable reflection of the national building stock while respecting the EU-wide framework, allowing differentiation by building types (residential/non- residential) and climatic zones. An additional A+ class can be included voluntarily, and is applicable to buildings that have an energy demand 20% lower than the ZEB threshold and that generate more renewable energy on site than they use.

Member States that have rescaled their EPC schemes between 1 January 2019 and 28 May 2024 may defer the new classification requirements until 31 December 2029 to preserve stability in national systems. EPCs must express energy performance as a primary energy indicator kWh/(m^2.y) and include other indicators such as operational greenhouse gas emissions and on-site renewable energy use. While certain indicators are mandatory, Member States may add voluntary ones such as detailed splits by type of use and building element details, carbon removals, number and type of recharging points for electric vehicles, or smart readiness. EPCs must also have a uniform visual identity nationally, be machine-readable and accessible, and include clear recommendations on energy performance improvement, emissions reductions, and indoor environmental quality.

Affordability is addressed by encouraging Member States to implement measures such as cost caps or financial support for vulnerable households. Quality control provisions require that at least 90% of EPCs are statistically valid and that a minimum of 25% undergo third-party verification when controls are delegated to non-governmental bodies, with the possibility of reducing this share as system reliability improves. Simplified EPC update procedures must be in place when minor improvements or renovation passport measures are implemented.

EPCs remain valid for 10 years, but new certificates must be issued at key trigger points, including construction, major renovation, sale, rental or contract renewal. Display obligations are expanded to cover all public buildings and non-residential buildings frequently visited by the public, regardless of size. These measures aim to improve EPC transparency, comparability and reliability across the EU while allowing flexibility for national adaptation.

In addition to the legal and technical requirements established in the EPBD and its respective guidance documents[1], the development of EPC systems across Member States can be further guided by the strategic insights provided by the NextGen EPC Cluster, which consolidates outputs from nine Horizon 2020 projects focused on next-generation EPCs[2].

This cluster recommends positioning EPCs as a central, user-friendly and interoperable tool in the building decarbonisation agenda, in line with broader EPBD provisions such as minimum energy performance standards (MEPS), ZEBs, renovation passports and digital building logbooks. Key recommendations include:

- Harmonised calculation methodologies: Adoption of a shared core ('kernel') calculation logic based on EU standards (e.g. CEN standards under Mandate M/480), promoting comparability and transparency across Member States.
- Additional focus on non-renewable primary energy, to allow fair comparison across different energy systems and technologies.
- Integration of measured data (e.g. from smart meters or indoor environmental quality sensors) to complement or validate calculated performance, helping to reduce the performance gap and better reflect actual building behaviour.
- Dynamic and user-centric EPCs: Certificates should evolve from being static compliance documents into interactive tools that reflect renovation progress, are updated with real-time data, and are integrated with renovation passports, digital building logbooks and the smart readiness indicator.
- Enhanced quality assurance and training: Establishment of harmonised protocols for third-party verification, continuous training and certification of EPC assessors, and rigorous validation of input data.
- Actionable and forward-looking recommendations: EPCs should provide structured renovation guidance aligned with deep renovation principles and long-term decarbonisation pathways (e.g. target Class A or ZEB by 2050).
- Broader indicator coverage: Certificates should progressively integrate indicators related to indoor environmental quality, smart readiness, carbon performance and climate resilience.
- Full digital interoperability: EPCs must be machine-readable and interoperable with national and EU-level building databases, enabling streamlined integration with public policy tools and financing schemes.

These recommendations support the EPBD's objective of making EPCs a central pillar in planning, implementing and monitoring energy renovation strategies at building, district and national levels, while also enhancing reliability, usability and public trust in the certification process.

EPCs have an intrinsically pivotal role in several elements of the EPBD, most notably the ones that are directly addressed by EPBD.wise: EPCs can be used to **check compliance with MEPS**, and they work hand in hand with building **renovation passports – they can be issued jointly and renovation passport improvement measures can replace EPC recommendations in certain cases**. The ZEB definition is intrinsically connected with the EPC, since **EPC labels are built on evenly distributed scales that will always mean a ZEB is Class A**.

When defining **national building renovation plans (NBRPs), one crucial aspect is the definition of the very worst-performing buildings**. These must **correspond to EPC Class G**, which gives the EPC a central role in defining national trajectories for residential building stock, as well as its role in defining minimum energy performance standards (MEPS) for the non-residential sector, which can use thresholds directly linked to EPC classes. In parallel, EPC registers and databases provide a unique, harmonised source of information on the building stock, enabling Member States to map the distribution of energy classes across dwelling types and regions, identify renovation needs, and quantify the shares of worst-performing buildings and energy-poor households. This data infrastructure allows NBRPs to set evidence-based trajectories, monitor progress over time against intermediate milestones (e.g. reductions in the share of Class G and F buildings), and update policy measures as new certificates are issued, thus turning the EPC into a continuous feedback and monitoring tool rather than a one-off compliance document. It is also instrumental in ensuring that the most vulnerable consumers are correctly addressed, as most of them are likely to be living in the worst-performing buildings. EPC-based data can support the targeting and tracking of social measures and dedicated support schemes in line with the EPBD requirements to prioritise the worst-performing and energy-poor households.

EPCs are also critical as part of the monitoring, reporting and verification of EPBD related initiatives as they are the core **part of the data to feed the energy performance of buildings database**. These databases are essential for actions across a variety of different levels, as depicted in the EPBD:

1. At the building level, since the data stored will allow easy and free-of-charge access to the full EPC (which includes the identification of energy performance improvement recommendations) for building owners, tenants and managers.
2. At the neighbourhood level, for example as a support tool for initiatives related to energy communities and citizen-led initiatives.
3. At the city/regional level, by providing local authorities with access to data on the energy performance of buildings in their territory (for instance, to facilitate the drafting of heating and cooling plans).
4. At the national level, as this information should be anonymised, made publicly available, coherent and interoperable with other national building databases. It should also be used to better plan, monitor and implement public policies and financing mechanisms.

Furthermore, **EPCs have a role in ensuring adequate funding is in place and aligned with the long-term targets**, and that barriers related to high upfront costs – especially on vulnerable consumers prone to energy poverty – are addressed and prioritised. This can be done at the building level by incorporating renovation passport features and information aligned with the 2050 decarbonisation target and the needs and expectations of building owners, managers and users. EPCs are also a useful tool for providing support to financing schemes pinpointing concrete renovation measures at the building level, as well as for informing, driving and monitoring building renovation policies and funding schemes.

Finally, **EPCs take the lead role in the communication of building energy performance**. EPCs are the key source of information on all aspects related to this metric. They can – and should – include additional indicators and data on subjects such as greenhouse-gas emissions and global warming potential, capacity to provide demand response to the grid, carbon storage and removal, building smartness, and indoor environmental quality.

The following table summarises the interactions between EPCs and other EPBD elements, and the policy directions these imply:

Policy Instrument / Element	Functional Level	Primary Function	Interaction with EPCs	Policy Inference
Minimum Energy Performance Standards (MEPS)	Regulatory Enforcement	Define and enforce minimum energy performance thresholds for buildings	EPCs can be used to check compliance with MEPS; energy classes (A-G) can be directly linked to MEPS thresholds	EPCs operationalise MEPS by providing measurable, comparable performance data for enforcement
Renovation Passports (RP)	Building-Level Execution and target alignment	Provide stepwise renovation roadmaps for individual buildings	EPCs can be issued jointly with RPs; RP improvement measures may replace EPC recommendations in some cases	EPCs and RPs together guide and track deep renovation, aligning building upgrades with policy targets
Zero-Emission Buildings (ZEB)	Strategic Benchmark	Set the highest energy performance standard (Class A)	EPC energy classes are anchored to ZEB definitions (Class A corresponds to ZEB); EPCs signal ZEB achievement	EPCs communicate ZEB status and progress, supporting national and EU decarbonisation goals
National Building Renovation Plans (NBRP)	National Strategy	Define national trajectories and targets for building stock	EPCs identify worst-performing buildings (Class G) and track progress towards NBRP targets	EPCs provide data for planning, monitoring and reporting under NBRPs
Digital Building Logbooks (DBL)	Data Integration	Aggregate building data for policy and financing	EPCs are integrated into DBLs, providing standardised, machine-readable performance data	EPCs enable interoperability and data-driven policy/ funding decisions
Quality Assurance & Control	System Reliability	Ensure reliability and validity of EPCs	EPCs are subject to independent control systems, third-party verification, and statistical sampling	EPCs' credibility and policy impact depend on robust quality control
Financial Support & Affordability	Social Equity	Support vulnerable households and promote uptake	EPCs may trigger financial support; affordability measures are linked to EPC issuance and recommendations	EPCs help target and monitor financial support, ensuring equitable policy implementation
Public Information & Awareness	Communication	Raise awareness and promote energy efficiency	EPCs serve as the main communication tool for building energy performance, including greenhouse gases, global warming potential, and renovation options	EPCs drive public engagement and informed decision-making

Table 1 - Interactions between EPC and other EPBD policy elements

This document explores the opportunities that are open to Hungary for effectively addressing the policy needs it has identified, complying with the new EPBD requirements and ensuring the EPC system can contribute to the strategic setting defined above.

2

METHODOLOGY

This section describes the methodology used to define the policy guidelines for the effective use of EPC schemes in the focus countries. This includes previous work on the specific policy needs, gaps and good practices identified for the countries in question, and the opportunities that the new EPBD may offer.

2.1 Approach for developing EPC policy guidelines

The development of EPC policy guidelines started with the mapping of policy needs and best practices, which involved gathering insights from various sources. Initially, insights were drawn from previous EU projects, national initiatives, direct stakeholder engagement, and a thorough review of relevant literature. This comprised a combination of desk research, stakeholder interviews and workshops. Stakeholder interviews at the national level were planned to identify the specific challenges faced in each country. Additionally, collaborative workshops held during policy forums developed by the EPBD.wise project helped to facilitate dialogue among experts, policymakers and stakeholders, fostering the exchange of ideas and the identification of key challenges and policy requirements. While the primary focus of the project is on the six designated countries – i.e. Hungary, Greece, Hungary, Poland, Romania and Ukraine – it was nevertheless also crucial to consider its broader implications across the EU.

Therefore, the compilation and analysis of policy needs extend beyond these focus countries, ensuring a comprehensive understanding with potential applicability across EU Member States. To survey and identify policy needs, a questionnaire was distributed to the six countries selected in the EPBD.wise project, allowing respondents to select the most important topics for further development. The results of both questionnaires have been used to identify policy needs in each focus country.

A second stage involved the identification of best practices to help meet the key policy needs identified, with examples retrieved from various EU countries. These examples generally address several challenges, including poor governance due to insufficient collaboration among different levels of government, staff shortages in public administrations, and data-related issues such as availability and quality. In the construction industry, labour and skill shortages, along with fragmented supply chains, hinder workforce capacity and investment.

The previous two steps are further detailed, including all the results and conclusions for each focus country in [2]. This is the first report from the EPBD.wise project, titled "Energy Performance Certificates: Policy needs and best practices".

Following the initial mapping, the selection was further streamlined by determining which of the countries selected EPCs as a priority for development. On this basis Bulgaria, Greece, Hungary and Poland were chosen as the target countries for advancing with detailed policy guidelines. The overall process for selecting and analysing focus countries, contact points, inputs and further research is depicted in Figure 1 (see Section 2.2).

2.2 Data collection and analysis

As has already been stated, one of the main sources for these policy guidelines was the first EPBD.wise deliverable related to EPCs, namely Energy Performance Certificates: Policy needs and best practices [2]. Figure 1 below illustrates the overall process, which began with data analysis performed under this framework including desk research, the questionnaire answered by each focus country, and interactions with focus countries in meetings and policy forums.

The next step included a fine-tuning of the best practices in light of specific EPBD opportunities for the country analysed and its planned implementation pathways, and the creation of tailored country questionnaires based on the policy needs identified in the previous step and on additional interactions with focus countries.

In the final step, the policy options, priorities and action plan were peer-reviewed by EPBD.wise partners, contact points in the focus countries, and other stakeholders. The final version of the policy guidelines includes their feedback.

Based on the results of the first two stages of the project, especially on the specific policy needs for the four focus countries, additional questionnaires were developed that included the following subjects:

1. EPC rescaling and calculation methodology

2. EPC databases

3. Training and education of experts

4. Quality control mechanisms

5. Integration of other indicators/schemes with EPCs

6. EPC recommendations

7. Communication and perception

The questionnaires provided the basis for the interviews and informed additional data-gathering when required. The main objective was to delve deeper into each policy need, assess the current status of the EPC system in relation to it, scrutinise current planning and activities related to the EPBD transposition, identify the main stakeholders, and pinpoint what kind of short-term actions could be leveraged and proposed.

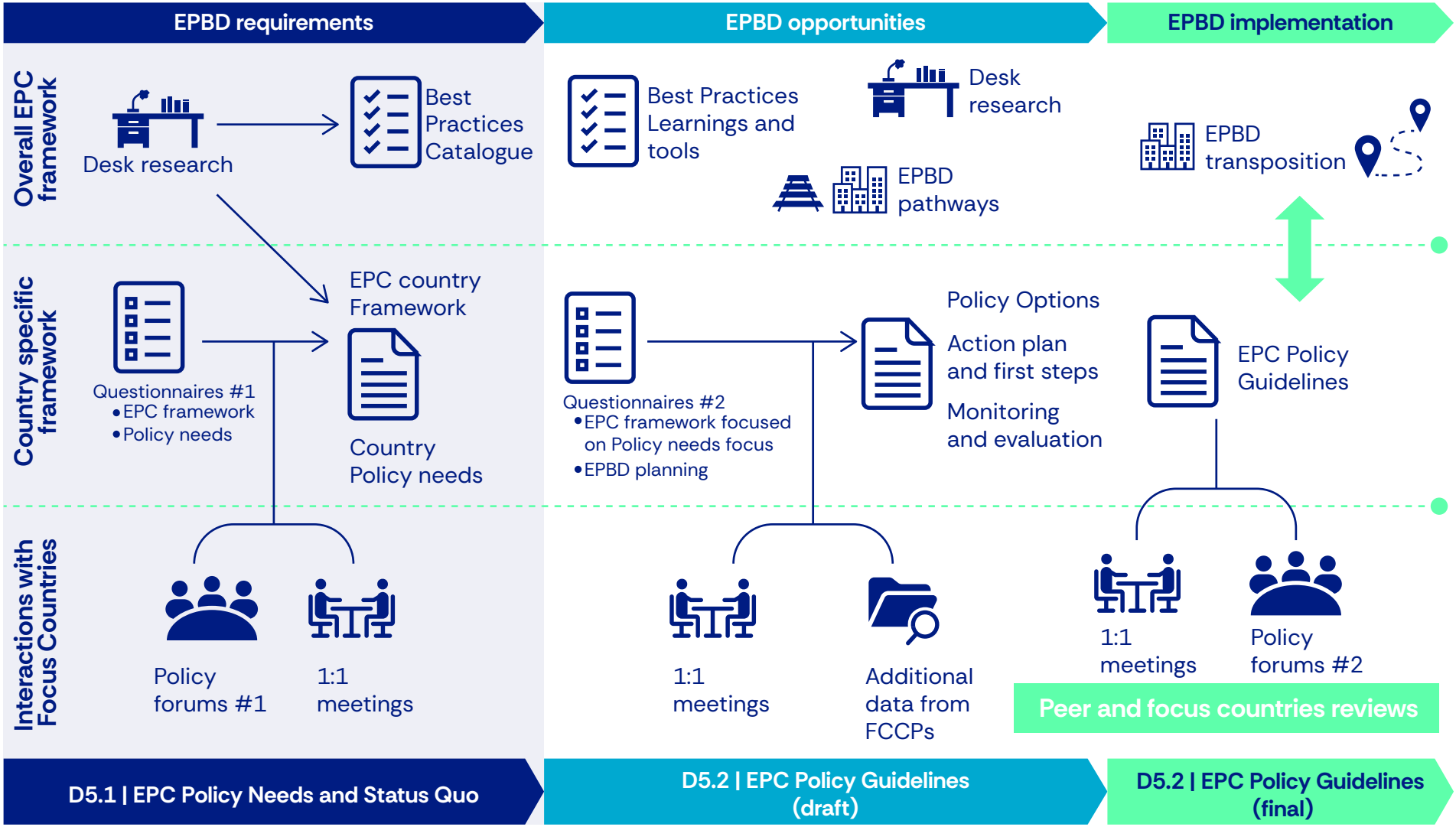

Figure 1 – Data collection and analysis for EPC policy guidelines development

3

POLICY NEEDS AND CURRENT STATUS OF EPCs IN HUNGARY

In this chapter, a summary of the main policy needs identified in the previous work under EPBD.wise is presented, together with a first prioritisation.

3.1 Policy needs and priorities

Hungary's EPC calculation methodology, updated by Decree ÉKM 9/2023[4], includes significant changes such as rescaling classes, introducing greenhouse gas emissions limits, and removing renewable energy targets. New requirements include detailed assessments of energy loss, domestic hot water, shading, overheating, and mandatory evaluations for BACS and HVAC systems in non- residential buildings. New developments must also include EV chargers. EPCs are calculated using simplified methods, with more complex buildings requiring intricate modelling techniques. Hungary maintains a centralised EPC database managed by the National Building Registry, but it is not yet comprehensive or interoperable enough to represent the building stock and support new uses such as extendedpurpose EPCs, integrated indicators (inspections, smart readiness indicator, renovation passports, real consumption) and advanced analysis. It also lacks a clear, GDPRcompliant access model for key stakeholders and has limited builtin qualitycontrol and validation functions, so it operates more as an administrative register than as a strategic data infrastructure. New EPCs have been mandatory for all buildings and apartments upon sale, rental or occupancy since 1 January 2024. Quality control involves sample checks and sanctions, but the relatively low costs of EPCs can lead to quality issues as the assessor's work is not properly remunerated. Communications campaigns would improve public perception and understanding of EPCs. Policy needs include improved communications, enhanced databases, stronger quality control, and the integration of other indicators (e.g. the smart readiness indicator) to enhance the EPC framework's effectiveness.

Based on the initial policy needs and priority definitions, and following the meetings and additional data received from the focus countries, the following top five priorities were identified for Hungary:

Hungary's policy priorities and measures					
Priority	**#1**	**#2**	**#3**	**#4**	**#5**
Hungary's policy priorities	Simplify EPC design, improve EPC recommendations and implement EPC rescaling	Strengthen quality control: enhance checks and enforce stricter quality measures	Improve EPC database: expand data introduction/ analysis and ensure efficient use of updated EPC format	Introduce SRI into the EPC framework	Launch communications campaigns to raise awareness and support for EPCs
Policy need category	EPC design/ rescaling/ recommendations	EPC quality control	EPC database	SRI introduction	EPC communication/ perception
Intervention type	Technical/ legislative and regulatory	Technical/ legislative and regulatory	Technical/ legislative and regulatory	Technical/ legislative and regulatory	Information and perception

Table 2 – Policy priorities and measures for Hungary

Although all aspects of the main policy needs are addressed in each country, this prioritisation exercise was crucial for developing the policy improvement scenarios detailed in Chapter 4. It helped to define and focus on the first steps of the action plan, and to identify relevant stakeholders for prioritised actions.

3.2 Current EPC system: opportunities for development

Policy priorities are measures or actions identified for each policy need. In this section, the aim is to explore how the opportunities identified in the EPBD can help to address policy prioritiess and needs.

Policy priority # 1 – Simplify EPC design, improve EPC recommendations and implement EPC rescaling: The new EPBD indicates opportunities to improve EPC recommendations so they include more details on energy savings and potential reductions in operational greenhouse gas emissions, how to improve indoor environmental quality, financial incentives and benefits, available administrative and technical support, and possible alternatives for the replacement of the heating and cooling system.

Policy priority # 2 – Strengthen quality control: enhance checks and enforce stricter quality measures: According to the EPBD, the EPC framework should define quality objectives and an independent control system for EPCs, while measuring the level of confidence in these controls with overall sampling targets and confidence levels to be achieved.

Policy priority # 3 – Improve the EPC database: expand data introduction and analysis, and ensure efficient use of the updated EPC format: Provisions in the EPBD state that the EPC database should allow data to be gathered from all relevant sources related to EPCs, inspections, renovation passports, the smart readiness indicator, and the calculated or metered energy consumption of the buildings covered. Also, Member States must ensure that local authorities have access to relevant data on the energy performance of buildings in their territory.

Policy priority # 4 – Introduce the SRI into the EPC framework: Article 15 of the EPBD introduces the SRI as a complementary tool to EPCs, aimed at assessing a building's ability to use smart technologies to adapt to occupants' needs and interact with the energy system. The Article establishes an EU-wide SRI framework, initially optional, and requires the Commission to clarify its complementary relationship with EPCs, ensuring that EPCs remain the main instrument for energy performance while the SRI adds information on automation, digitalisation and flexibility. It also foresees a testing phase and the possible future mandatory application of the SRI for certain large non-residential buildings.

Policy priority # 5 – Launch communications campaigns to raise awareness of and support for EPCs: For a better public perception of EPCs, the EPBD foresees there will be programmes to provide information, training and awareness-raising developed by local and regional authorities – all Member States are obliged to do this.

Table 3 summarises Hungary's specific policy needs (as identified in "Energy Performance Certificates: Policy needs and best practices"[3]), the country's current planning, and the opportunities identified in the EPBD.

Policy needs for effective EPC systems design	Current planning	EPBD opportunities
EPC recommendations not aligned with the reality of the building stock	In line with EPBD transposition (TBD)	Recommendations on improving building envelope or technical building systems; must include more details on: • The energy savings and operational greenhouse gas emissions reduction potential • The improvement of indoor environmental quality • Financial incentives and benefits • Available administrative and technical support • Possible alternatives for the replacement of the heating and cooling system
Weak quality control due to low costs of EPCs	In line with EPBD transposition (TBD)	Member States must provide a clear definition of the quality objectives and the level of statistical confidence that the EPC framework should achieve. The level of quality and the level of confidence of the independent control system for the EPC should be measured using random sampling and should account for all elements provided in the definition of a valid EPC. Member States must require third-party verification for the evaluation of at least 25% of the random sample when the independent control systems have been delegated to non-governmental bodies.
EPC database underdeveloped	In line with EPBD transposition (TBD)	The database should allow data to be gathered from all relevant sources related to EPCs, inspections, renovation passports, the SRI and the calculated energy consumption of the buildings covered. Member States should ensure that local authorities have access to relevant data on the energy performance of buildings on their territory as required to facilitate drafting of heating and cooling plans and include operational geographic information systems and the related databases (...)
SRI introduction	In line with EPBD transposition (TBD)	The SRI is introduced as a complementary tool for EPCs, aimed at assessing a building's ability to use smart technologies to adapt to occupants' needs and interact with the energy system.
Lack of public awareness	In line with EPBD transposition (TBD)	Local and regional authorities should be consulted and involved in the development of programmes to provide information, training and awareness-raising. Member States should prepare and carry out information and awareness-raising campaigns.

Table 3 – Hungary's policy gaps and EPBD opportunities

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EPC POLICY GUIDELINES FOR HUNGAY

Key policy options and measures for Hungary include simplifying EPC design, improving EPC recommendations and implementing EPC rescaling **(Policy priority # 1)**; strengthening quality control **(Policy priority # 2)**; enhancing the EPC database **(Policy priority # 3)**; introducing the SRI into the EPC framework **(Policy priority # 4)**; and improving the perception of EPCs **(Policy priority # 5)**.

4.1 Policy options and scenario for improvement

Policy priority # 1 – Simplify EPC design, improve EPC recommendations and implement EPC

Under the EPBD, EPC recommendations must now provide detailed insights into energy savings potential, greenhouse gas emissions reductions, indoor environmental quality improvements, financial incentives, administrative and technical support, and alternative options for replacing heating and cooling systems. Hungary plans to address this by upgrading its EPC software in line with EPBD requirements, and revising the layout and presentation of EPCs to enhance their clarity. It should be noted, however, that the EPC software has already been improved under the 9/2023 ÉKM decree.

Rescaling was carried out recently, in 2023, introducing a scale from A+++ to I. Although Hungary is only mandated to carry out new rescaling by 31 December 2029, it should start its preparations to do so in accordance with the EPBD.

Policy priority # 2 – Strengthen quality control: enhance checks and enforce stricter quality

There are stricter measures that Hungary could implement to strengthen quality control, in line with EPBD provisions requiring an independent control system, random sampling for verification, and third- party evaluation of at least 25% of EPCs assessed by non-governmental bodies if control systems have been delegated to these entities. A one-year study by the Chamber of Engineers, combined with on-site inspections, will assess and improve EPC reliability.

Strengthening quality control by enhancing verification processes and enforcing stricter quality checks will ensure that the energy performance assessments provided by EPCs are accurate, reliable, and aligned with MEPS. It is crucial for identifying the worst-performing buildings, which play a central role in defining NBRPs: this aligns directly with the EPBD's objectives for clear, reliable data and effective monitoring, reporting and verification systems.

Policy priority # 3 – Improve the EPC database: expand data introduction and analysis, and ensure efficient use of the updated EPC format

Another priority in Hungary is to improve the EPC database to make it more comprehensive, interoperable, and representative of the national building stock. This includes integrating data from EPCs, inspections, Renovation Passports, SRI assessments and metered energy consumption, and ensuring interoperability with other public registers through unique building identifiers. Easy, digital and free access to building-specific data should be guaranteed for building owners, tenants, policymakers, NGOs and academic institutions via user-friendly online platforms, while anonymised and aggregated datasets should be publicly accessible for research and policy evaluation. Authorised third parties, such as financial institutions or independent experts, should have controlled, GDPR-compliant access based on owner consent. Ensuring broad but well-regulated access would strengthen transparency, improve data reliability, and support more effective decision-making across the Hungarian building sector [5].

Policy priority # 4 – Introduce the SRI into the EPC framework

The introduction of the SRI into the EPC framework is also a key policy option, as the EPBD mandates the integration of building automation and control systems to support energy efficiency and improve performance monitoring. Hungary is in the initial phase of SRI implementation. It is currently part of the tunES (Tuning EPC and SRI instruments to deliver full potential) project financed by the Programme for Environment and Climate Action (LIFE). Under this project Hungary will identify a package of national policy measures including tools for evidence, policy design, assessment and continuous stakeholder engagement[6]. A first screening of the smart readiness indicator's development and deployment status in Hungary is available in an output of the tuNES project, Report on survey and interview results[7].

Policy priority # 5 – Launch communications campaigns to raise awareness of and support for EPCs

Increasing public awareness through targeted communications campaigns is also crucial. The EPBD requires Member States to establish one-stop-shops for EPC-related guidance and to conduct awareness-raising initiatives involving regional and local authorities. Hungary plans to promote EPCs as tools for understanding energy costs and savings while creating one-stop-shops to provide technical and financial support.

These measures are not only technically feasible but also strategically important for Hungary's broader energy policy objectives. The following section outlines how each priority measure relates to other policy elements, how it supports compliance with the EPBD, and how it contributes to national decarbonisation goals.

Links with other policy elements

Simplifying the design of EPCs will make them more user-friendly and ensure that essential information – such as energy classes, renovation recommendations and additional indicators – is easily understood by building owners, tenants and policymakers. Rescaling will ensure that EPCs reflect advances in technology and energy-efficiency goals, making the system more adaptable to evolving building standards and energy demands. This change supports the EPBD's emphasis on the role of EPCs in driving the transition to ZEBs, where EPC labels are aligned: by definition, Class A is a ZEB.

The updated EPC format will streamline the process of analysing energy performance and provide valuable data for strategic planning at multiple levels. The EPBD states that EPC databases should be interoperable, anonymised and publicly available, ensuring that they serve as a reliable resource for decision-making from local to national levels; and they should support the identification of the worst- performing buildings, which is critical for setting renovation priorities and defining MEPS and national trajectories to be included in NBRPs.

Introducing the SRI into the EPC framework ensures a more comprehensive assessment of buildings' energy performance and digital readiness. This aligns with the EPBD's goals of enhancing the role of EPCs in evaluating not only energy efficiency but also the smart capabilities of buildings, in coordination with other EU schemes and standards such as the EPB standards and the BACS-oriented provisions highlighted in Article 13 of the EPBD on technical building systems. In particular, Article 13(9) requires that non-residential buildings above defined system output thresholds should be equipped with building automation and control systems capable of continuously monitoring, logging, analysing and adjusting energy use and benchmarking the efficiency of technical building systems, which provides a natural data and functionality backbone for SRI assessments to be connected with EPCs[8]. In line with the 'bridging SRI and EPC certification' approach described in recent SRI2MARKET work[9], Hungary can progressively move towards a loosely integrated SRI– EPC scheme, where SRI certification leverages EPC input data, interoperable databases and a coherent visual identity, while allowing some flexibility in SRI uptake. By incorporating the SRI in this way, Hungary will be able to provide a clearer picture of how buildings can adapt to future energy demands and technologies, supporting the transition to more sustainable, smart and flexible energy systems, and making effective use of the information produced by BACS and other smart services for both EPCs and the SRI.

Communications campaigns will aim to improve public understanding of EPCs and the role they play in guiding renovation strategies and securing financing. Promoting awareness of EPCs will encourage their effective use in improving building energy performance and contribute to the broader goal of energy efficiency. Public campaigns will also address the barriers posed by high upfront costs, particularly for vulnerable consumers prone to energy poverty, ensuring that EPCs help guide financing schemes and renovation policies effectively.

Measure	EPBD requirements	Country-specific pathway	Responsible for policy implementation
Policy priority # 1 Simplify EPC design, improve EPC recommendations and implement EPC rescaling	Recommendations must now also include more details on: • The energy savings and operational greenhouse gas emissions reduction potential • The improvement of indoor environmental quality • Financial incentives and benefits • Available administrative and technical support • Possible alternatives for the replacement of the heating and cooling system.	Create user-friendly digital tools and standardised templates; a harmonised A to G scale is needed by 2029, so preparations should be made for its timely implementation. Recommendations should be more detailed, cost-oriented and linked with renovation advice.	Ministry of Energy, ÉMI Nonprofit Kft, Chamber of Engineers
Policy priority # 2 Strengthen quality control: enhance checks and enforce stricter quality measures	To ensure the quality of EPCs, Renovation Passports, the SRI and of the inspection of systems, an independent control system should be established in each MS.	Work on verification of data accuracy, automatic parameter validation, proactive monitoring and guidance over punitive measures, and risk-based approaches to target high-impact areas.	Ministry of Energy, Ministry of Construction and Transport, ÉMI Nonprofit Kft, Chamber of Engineers
Policy priority # 3 Improve the EPC database: expand data introduction and analysis, and ensure efficient use of the updated EPC format	Set up a national database for the energy performance of buildings which allows data to be gathered on the level of individual buildings and on the national building stock level. The database must allow data to be gathered from all relevant sources related to EPCs, inspections, Renovation Passports, the SRI, and the calculated energy consumption of the buildings covered.	Integrate data from EPCs, inspections, Renovation Passports, the SRI and metered energy consumption; ensure broad, secure and free access for owners, tenants, policymakers, NGOs and academia, with interoperability and GDPR compliance.	Ministry of Energy, National Building Registry (OÉNY)
Policy priority # 4 Introduce the SRI into the EPC framework	The SRI should be used to improve the energy efficiency and overall performance of buildings.	The SRI is at an early stage of development, supported by the LIFE tuNES project. Through the SRI, Hungary can evaluate the smart capabilities of buildings and impacts on energy efficiency, taking advantage of ongoing EU projects.	Ministry of Energy, Ministry of Construction and Transport, ÉMI Nonprofit Kft, Chamber of Engineers
Policy priority # 5 Launch communications campaigns to raise awareness of and support for EPCs	Member States must ensure the establishment and the operation of one- stop-shops for the energy performance of buildings, targeting all actors involved. Local and regional authorities should be consulted and involved in the development of programmes to provide information, training and awareness- raising, which Member States are obliged to prepare and carry out.	Use EPCs to understand the costs of energy and how to save energy. Create one-stop-shops.	Ministry of Energy, Ministry of Construction and Transport, ÉMI Nonprofit Kft, Chamber of Engineers

Table 4 – Hungary: specific measures to be implemented, suggested country pathways and responsible entities

4.2 Details on implementation of high-priority measures

This chapter presents a selection of priority measures which have the strongest potential to address key challenges. Each measure is described and analysed in detail, with particular attention to its implementation pathway, expected benefits, and role within the broader policy framework. The aim is to provide practical and actionable insights into how these measures can be translated into effective action.

4.2.1 What is foreseen in the EPBD?

Through simplified design, enhanced recommendations and harmonised rescaling, the EPBD introduces several measures to improve the quality, usability and policy relevance of EPCs.

First, the design of EPCs is to be simplified and standardised across the EU, following a common template that includes a unified A to G scale, key performance indicators, and a visually clear, accessible layout. This aims to ensure greater legibility and comparability for building users and owners, promoting informed decision-making and improving trust in the instrument.

Second, EPCs must now include targeted recommendations aligned with 2030/2050 goals. These should go beyond generic advice and provide tailored, technically feasible measures aimed at reducing greenhouse gas emissions, enhancing indoor environmental quality, and achieving deep energy renovation. Recommendations must align with long-term decarbonisation targets – such as the transition to ZEBs by 2050 – and, where possible, be linked to available financial support instruments or Renovation Passports. They should also include an estimate for the range of payback periods or costs and benefits.

In addition, the EPBD mandates the implementation of a harmonised rescaling of EPC classes. Under this scheme, all EPCs must apply a common A to G scale where Class A corresponds to ZEBs and Class G includes the very worst-performing buildings within the national building stock. This rescaling aims to ensure coherence across Member States and enable links between EPC ratings and renovation policies such as MEPS. Member States that updated their scale after 2020 may delay implementation until 31 December 2029.

Lastly, EPCs must be issued at key trigger points such as construction, sale, rental or major renovation, and remain valid for a maximum of 10 years. Member States must ensure the independent verification and statistical validity of EPCs, with a clear quality control system in place. EPCs must also be displayed in public buildings and non-residential buildings frequently visited by the public. A central EPC database is required to store and provide access to certificates and related data. Finally, the EPBD requires the establishment of one-stop-shops and awareness campaigns to improve understanding and increase use of EPCs.

Together, these requirements aim to transform EPCs into more effective instruments for supporting building renovation, decarbonisation and user engagement in line with broader EPBD policy elements.

EPBD requirement	Summary
Energy performance class	Energy performance class should be scaled from A to G, with A for zero-emission and G for worst-performing buildings.
Format and visual identity	Certificates must have a common visual identity in the Member State, be digital (with printed version on request), and be machine-readable, clear and easily readable.
Quality and accessibility	Member States must ensure that certificates are reliable, affordable and accessible, considering financial support for vulnerable households. EPCs must be issued by independent qualified experts after on-site (or, if appropriate, virtual) visits.
Validity and updates	EPCs must have a maximum validity of 10 years. Simplified update procedures should be made available for single element upgrades or Renovation Passport implementation.
Link to renovation advice	Owners with certificates below Class C should be invited to dedicated one-stop-shops for renovation advice upon certificate expiry or after five years.
Recommendations	Certificates must provide feasible, cost-effective measures for improvement, including payback period, estimated savings, and technical and financial details.
Inclusion in sale/rent	The EPC must be shown and handed to buyers/tenants at sale/rent/renovation, and the energy rating must appear in advertisements.

Table 5 – EPBD requirements related to Hungary's measures

4.2.2 What has the country already done in relation to the measure(s)?

With the 9/2023 ÉKM decree in force since 1 November 2023, Hungary has already taken concrete steps to implement the measures related to **Policy priority #1**.

Hungary introduced a completely redesigned methodology for energy performance certification. This enables a simplified calculation process, making it easier for certifiers to generate EPCs using electronic tools. The simplified method includes detailed parameters for thermal zones, windows, insulation and building systems.

The new EPC format includes detailed, quantified upgrade recommendations for energy renovation. These recommendations are tailored to the specific building and are categorised into 'Good' and 'Excellent' performance levels. They also indicate potential improvements in both energy use and CO_2 emissions if the suggested measures are implemented. The updated certificate format includes a clear layout, QR code, building photos, and component-based energy analysis (e.g. heating, ventilation, lighting).

Hungary introduced a dual EPC scale that includes both primary energy consumption and CO_2 emissions, each ranging from A+++ to I. New buildings are now subject to stricter limits, including a CO_2 cap (e.g. 20 kg/m^2/year). The classification system was rescaled in line with NZEB standards. Furthermore, the validity of EPCs has been reduced from 10 years to five years to ensure that assessments stay up to date with changing standards. The calculation method now accounts for lifecycle energy impacts and distinguishes between renewable and non-renewable sources.

However, some EPBD requirements are not yet fully covered: machine-readability, recommendations, and linkage to advice are not in place. Specifically, while the new EPC format already incorporates a QR code for digital access and directs property owners to free advisory services from professional chambers, it lacks full machine-readable structured data extraction, more detailed and cost-oriented recommendations explicitly linked to renovation advice (e.g. via one-stop shops for owners below Class C), and a formal nationwide invitation process to dedicated support upon certificate expiry or after 5 years.

EPBD obligation or measure	Implemented in Hungary?	Notes	Deadline
Energy performance class (A to G scale, A=zero emission, G=worst- performing)	Partially (rescaled in 2023)	Rescaling was completed under ÉKM 9/2023, but not fully harmonised with the EPBD. Eligible for derogation under Art. 19(2)	31 December 2029
Machine-readable EPCs	No	EPCs are not yet machine-readable to a uniform standard.	29 May 2026
Recommendations	Partially	Measures and impacts are included, but there is currently less detailed cost/payback/ financial information than the EPBD requires.	29 May 2026
Validity	Yes	Hungary's EPCs are valid for five years, which is considerably stricter than the EPBD maximum of 10 years.	29 May 2026
Inclusion in sale/rent	Yes	Certificates are shown and handed over on sale or rent; energy class is mandatory to include in advertisements.	29 May 2026
Link to renovation advice	Partially	Modernisation proposals include equivalent recommendations, but a formal link to one-stop-shops remains unclear.	29 May 2026

Table 6 – Implementation status of measures and obligations

4.2.3 What can be done?

Hungary is currently at a crucial stage in the development of its energy performance certification system. While the country may postpone the full adoption of the harmonised A to G scale under Article 19 of the EPBD until 2029, it should begin to prepare the necessary mechanisms for its timely implementation. In addition, other key requirements still need to be addressed, such as ensuring that EPCs are provided in a machine-readable format, including more detailed and cost-oriented recommendations, and establishing a clear link with renovation advice through one-stop-shops.

Hungary's EPC process continues to rely on complex software and certified experts, which can limit accessibility for small property owners. To address this, the country could introduce user-friendly digital tools and standardised templates to simplify the certification process, particularly for common building typologies. The EPC should also be available in a machine-readable format structured in a way that allows software applications to easily identify, recognise and extract specific data from it.

At the same time, the analysis below about the current front page of the EPC shows the need to align with the requirements of Annex V of the EPBD, in particular the inclusion of additional indicators such as energy needs, operational greenhouse gas emissions, on-site renewable energy production, capacity to react to external signals, heat distribution system capacity for low or more efficient temperature levels, and contact information of the relevant one-stop-shop.

The front page of Hungary's current EPC is shown below, and its missing content is analysed in Table 7. A visual layout that follows Annex V of the EPBD should be introduced to guarantee a common identity.

Figure 2 – Hungary's EPC front page layout

Below in Table 7 is an analysis of what Hungary will need to change on the first page of its EPC, in accordance with Annex V of the EPBD.

EPBD requirements (front page)	Present in EPC?	Present
Energy performance class	Yes	Need to rescale by 31 Dec 2029 – should prepare in advance
Calculated annual primary and final energy use in kWh/(m².y) and kWh or MWh	Partially	Energy classes indicate ranges, exact values likely on later pages
Renewable energy produced on site (% and total, main energy carrier)	Partially	Only shows amount of renewable energy utilised
Operational greenhouse gas emissions in kgCO_2/m²/year	Partially	CO_2 emissions shown; global warming potential not included
Calculated energy needs in kWh/(m².y)	No	Values for energy needs not shown
Capacity to react to external signals (yes/no)	No	Not indicated
Heat distribution system capable for low or more efficient temperature levels, where applicable (yes/no)	No	Not indicated
Contact information of the relevant one-stop-shop	No	Only certifier's contact details; no one-stop-shop information

Table 7 – Status of EPBD Annex V requirements for EPC front page layout

4.3 Proposed action plan and first steps

This section comprises two tables that list the stakeholders and their respective roles in EPC improvement (Table 8) along with a proposed action plan (Table 9). The good practices that can add value to the measures are also referenced. Further details on these good practices can be found in the EPBD.wise report Energy Performance Certificates: Policy needs and best practices[3].

Stakeholder name	Category	Role	How to be involved
Lechner Knowledge Center	Governmental institute	Operating the National Building Registry (OÉNY) Improving the database	Data provision
ÉMI Nonprofit Kft	Governmental institute	Implementing and managing new policies	Meetings, workshops, emails, content development, technical expertise, data provision, communication
Chamber of Engineers	Association	Implementing and managing new policies	Meetings – involved in informal discussions
Chamber of Architects	Association	Implementing and managing new policies	Meetings – involved in informal discussions
Universities and other educational institutions	Academia	Organising training for auditors	Training, workshops
Finance sector	Business/ Government	Financing training; providing financial support for vulnerable households	Financing
Real estate sector	Business	Adapting the real estate market to the new policies	New obligations
Independent energy consultants	Energy experts	Providing technical expertise	Content development, technical expertise, data provision

Table 8 – Hungary's EPC policy improvement stakeholders and their roles

Priority	Objective	Key activities	Good practices	Responsible for policy implementation	Expected outputs	Timeline
Policy priority # 1 Simplify EPC design, improve EPC recommendations and implement EPC rescaling	Make EPCs user-friendly	• Implement harmonised A to G scale (preparation for 2029) • Improve EPC recommendation detail and clarity	D5.1 – Denmark's Owner- Oriented EPCs (Good Practice No. 6)	Ministry of Energy, Ministry of Construction and Transport, ÉMI Nonprofit Kft, Chamber of Engineers	Clear, usable EPCs supporting renovations	29 May 2026 (Rescaling by 31 Dec 2029)
Policy priority # 2 Strengthen quality control: enhance checks and enforce stricter quality measures	Ensure reliability and accuracy of EPCs	• Establish independent control system • Improve verification, proactive monitoring and enforcement penalties	D5.1 – Portuguese Quality Assessment System (Good Practice No. 2) D5.1 – Ireland's Quality Assurance (Good Practice No. 3)	Ministry of Energy, Ministry of Construction and Transport, ÉMI Nonprofit Kft, Chamber of Engineers	Reliable EPC data; improved confidence in assessment s	29 May 2026
Policy priority # 3 Improve the EPC database: expand data introduction and analysis, and ensure efficient use of the updated EPC format	Provide interoperable, accessible EPC data platforms	• Integrate EPC, inspections, Renovation Passports, SRI, and real consumption data • Ensure stakeholder access to database	D5.1 – Portuguese Quality Assessment System (Good Practice No. 2)	Ministry of Energy, National Building Registry (OÉNY)	Integration of multiple indicators into one database with stakeholder access	29 May 2026
Policy priority # 4 Improve the EPC database	Implement the SRI to complement energy performance	• Promote SRI awareness and integration using LIFE tuNES tools	D5.1 – X- tendo Toolbox (Good Practice No. 7)	Ministry of Energy, Ministry of Construction and Transport, ÉMI Nonprofit Kft, Chamber of Engineers	Broader EPC assessment s including smart readiness	-
Policy priority # 5 Launch communications campaigns to raise awareness of and support for EPCs	Improve public understanding and build support for EPCs	• Establish one-stop- shops • Conduct information and awareness programmes with regional and local authorities	D5.1 – Scotland's HES OSSs (Good Practice No. 5) D5.1 – Denmark's Owner-Oriented EPCs (Good Practice No. 6)	Ministry of Energy, Ministry of Construction and Transport, ÉMI Nonprofit Kft, Chamber of Engineers	Higher awareness of EPCs; increased uptake of renovation advice	Continuous

Table 9 – Hungary's proposed action plan

Timeline for implementation of measures under the EPBD

The deadlines indicated for each priority in Hungary's action plan directly reflect the timetable for transposing and implementing the new EPBD (notwithstanding Hungary's recent rescaling of EPCs and the option to use the derogation period until 2029 for the new A to G scale). The more structural measures – simplifying EPC design, improving EPC recommendations and implementing EPC rescaling **(Policy priority # 1)**, strengthening quality control **(Policy priority # 2)**, improving the EPC database **(Policy priority # 3)** and introducing the SRI into the EPC framework **(Policy priority # 4)** – are aligned with the deadline of 29 May 2026 laid down in the EPBD for full implementation of the revised requirements on EPC content, classification, databases and control systems, and the integration of additional indicators such as the SRI, even if Hungary may phase in certain aspects of rescaling over a longer period.

By contrast, launching communication campaigns to raise awareness of and support for EPCs **(Policy priority # 5)** is framed as an ongoing action, since it relies on continuous information and awareness-raising, iterative feedback from building owners and market actors, and the progressive adaptation of messages and tools as the Hungarian EPC framework – including rescaling, database use and the introduction of the SRI – evolves over time.

4.4 Monitoring and evaluation of EPC schemes

Effective monitoring, reporting and evaluation are essential to ensure that EPC schemes fulfil their central role within the EPBD. As emphasised in the EPBD.wise report An Integrated MR&E Framework for Effective EPBD Implementation, EPCs are not merely compliance documents but pivotal datagenerating instruments for tracking progress in renovation, energy performance, zeroemission pathways, and policy coherence across the building sector. Key points for EPC schemes include:

Monitoring: Ensuring that EPC data – including energy classes, primary energy indicators, operational greenhouse gas emissions, recommendations and building characteristics – are continuously collected, validated and fed into national databases. These databases must integrate EPCs with inspection data, renovation passports, the smart readiness indicator, and measured building consumption where available.

Reporting: Member States must ensure transparent, harmonised annual reporting to the national building performance database and the EU Building Stock Observatory. This allows EPCbased indicators to inform NBRPs, MEPS implementation, ZEB uptake, and financial planning at national and EU levels.

Evaluation: Evaluation checks the extent to which EPCs are providing actionable insights. The EPBD.wise monitoring, reporting and evaluation framework recommends that this should include:

- the quality and statistical validity of issued EPCs (quality control);
- the effectiveness of EPC recommendations in triggering renovations; and
- the impact and support provided by EPC schemes on policy objectives such as MEPS and trajectories compliance, energy poverty alleviation, financing schemes and progress toward ZEBs.

Best-practice examples from other focus countries include the following:

Portuguese quality assessment system: Ensuring the quality and reliability of EPCs through rigorous verification processes, qualified experts meticulously examine data and information recorded by EPC assessors to ensure accuracy and compliance with established criteria and methodologies. The Directorate General for Energy and Geology (DGEG) promotes confidence among stakeholders (including building owners, real estate agents and policymakers) by ensuring the reliability of the EPC database. The Portuguese energy agency ADENE's approach involves a systematic review of EPCs to verify the correctness of energy performance indicators, the appropriateness of the selected calculation methodologies, and compliance with national and EU regulations. This system's effectiveness is enhanced by close and effective communication with experts, focusing on error prevention rather than penalties, through proactive monitoring and the accompaniment of assessors during building visits. This could be a good approach for Hungary to implement, as it requires quality control and a database that reflects the real state of the building stock. However, it does raise issues such as how to guarantee reliability and independence, as well as increased costs.

Ireland's quality assurance risk-based approach: This provides guidelines and performance criteria to assessors, ensuring their competency and upholding the credibility of EPCs. Continuous monitoring and stakeholder engagement enhance EPC quality control. The Irish system involves comprehensive checks on EPC data, assessment methodologies, and compliance with national and EU standards. Feedback mechanisms have been established to improve the performance of assessors and maintain the accuracy of the EPC database. Through comprehensive data checks, continuous monitoring and stakeholder engagement, Hungary could improve EPC quality and compliance with EU standards. The feedback mechanisms used in Ireland would help to identify errors, refine assessment methodologies and enhance database accuracy. However, Hungary may face challenges such as limited resources for continuous monitoring and the need for structured assessor training.

Portugal's EPC financing: This serves various stakeholders and objectives by providing tailored recommendations, taxation benefits and financial incentives to promote energy efficiency initiatives. Portugal's EPCs play a pivotal role in incentivising renovation actions, facilitating access to funding schemes and supporting comprehensive energy efficiency improvements. By integrating various policy objectives into the EPC framework Portugal addresses multiple needs, including EPC recommendations, database management, and the integration of other indicators and schemes. This good practice could help Hungary to enhance energy efficiency investments and data management by linking EPCs to financial incentives, tax benefits and renovation support schemes, while also integrating EPCs, inspections, Renovation Passports, the SRI and real energy consumption data into a centralised system. This approach would encourage renovations, improve policy planning, and ensure data accuracy. However, challenges include securing funding, coordinating stakeholders, developing digital infrastructure, and ensuring data interoperability.

United Kingdom's EPC quality control: UK EPCs have quality control guidelines to ensure accuracy and consistency. Energy assessors are required to maintain comprehensive records for each EPC they produce. These records should include data files or software data collection forms that detail the information used in the EPC calculation, allowing quality assurance assessors to verify the accuracy of each data entry stage associated with the Simplified Building Energy Model or Dynamic Simulation Model. Additionally, design documents such as floor plans, elevations and sections should be retained to facilitate EPC recalculations if necessary. Site notes, whether in paper or electronic format, are also essential components of the documentation. The UK quality control system could help Hungary improve EPC accuracy and consistency. However, implementation challenges include an increased administrative burden for assessors, the need for digital infrastructure to store and manage records, and the need for regular audits to ensure compliance.

5

CONCLUSIONS, RECOMMENDATIONS AND NEXT STEPS

A comparative analysis of the policy needs across focus countries enables a clearer understanding of the context, preparing the ground for replication of good practices and highlighting what each country can build upon.

The next table is an update of a similar summary exercise that was published in the EPBD.wise report on "Energy Performance Certificates: Policy needs and best practices"[3], including the results of recent interactions with focus countries and additional data provided.

Intervention type	Policy needs	Bulgaria	Greece	Hungary	Poland
Technical/Legislative and regulatory	EPC rescaling and calculation methodology	Yes	Yes	Yes	Yes
Technical/Legislative and regulatory	EPC quality control	Yes	Yes	Yes	Yes
Information and perception	EPC communication/perception	No	Yes	Yes	Yes
Technical	EPC databases	Yes	No	Yes	No
Technical/Information and perception	EPC recommendations	No	No	Yes	Yes
Technical/Legislative and regulatory	Integration of other indicators/ schemes with EPC	No	Yes	Yes	Yes
Technical	Training and auditor capacitation	Yes	Yes	No	No

● Policy needs **identified as priority** from the start of the EPBD.wise process
● Policy needs that have **shifted priority** between the *EPC Policy needs and best practices* and the *EPC Policy Guidelines*
○ Policy needs that were not identified as priority

Table 10 – Policy needs categorised by intervention type, per country

The main priorities for all countries included are related to the technical, legislative and regulatory, and information and perception aspects of EPCs. More specifically, policy needs in all the countries concern the methodology for rescaling and calculating EPCs, quality control mechanisms, and communication and perception.

The summary table above also shows that although most countries did not identify core issues regarding the methodology for rescaling and calculating EPCs as policy needs in the first step, these aspects were subsequently highlighted when the requirements of the EPBD were analysed. This also reflects the importance of these two major changes in the EPBD and the fact that, in most cases, rescaling and new mandatory indicators for calculating EPCs and defining MEPS and national trajectories will require significant methodological changes. This should be seen as a trigger point for other interventions, for instance in setting up improved databases and to boost wider communication strategies. These conclusions and common priorities define a first framework for replicating the policy guidelines in additional countries.

As Hungary's approach and pathway focus on quality control, improvement of the EPC and communications, it provides interesting insights for other countries. One such example is the proposal to include additional indicators and take advantage of ongoing EU-financed projects to leverage this approach. Even with a relatively new EPC system in place, there is already total openness to adapt to the new EPBD requirements and improve the layout of the EPC, possibly anticipating some requirements even though Hungary is eligible for a derogation on rescaling until 2029, as stated in Article 19, paragraph 2.

Building on the analysis and priorities identified in the previous sections, Hungary is well positioned to advance its EPC framework in alignment with the evolving requirements of the EPBD. The country's proactive focus on quality control, EPC rescaling, enhanced recommendations and robust communications efforts sets a strong foundation for further improvement and replicability. Specific action areas are as follows:

Adapt to EPBD requirements: Continue preparations to update the EPC system to fully meet the new EPBD requirements. This includes early adoption of changes to the calculation methodology, even though Hungary is eligible for a derogation on rescaling until 2029. The commitment to implement some of these changes by 2025 demonstrates strong leadership.

Integrate additional indicators: Leverage the inclusion of greenhouse gas emissions as a key indicator within the EPC, going beyond minimum EPBD requirements. This approach enhances the relevance and utility of the EPC in driving decarbonisation and aligns with broader EU climate objectives.

Improve EPC database: Invest in the continuous improvement of EPC databases, ensuring accuracy and accessibility. Strengthening data infrastructure will support more effective policy monitoring and evaluation.

Increase stakeholder training and capacity building: Expand training and support for auditors and other stakeholders to ensure consistent application of new methodologies and best practices across the sector.

Maintain momentum for early implementation: Continue to prioritise early adaptation to EPBD changes, particularly in rescaling, methodology and new mandatory indicators.

Promote good practices: Share Hungary's experiences – especially the inclusion of greenhouse gas emissions in EPCs and the adoption of stricter validity criteria – with other Member States to encourage harmonisation and improvement across the EU.

Enhance communications strategies: Use the transition to the new EPC system as an opportunity to launch targeted communications campaigns, increasing public awareness and engagement with energy performance improvements.

Foster continuous learning: Participate in EU-funded initiatives and cross-country collaborations to exchange knowledge and stay at the forefront of EPC policy and technical developments.

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