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Consultation on the revision of the Energy Performance of Buildings Directive 2010/31/EU

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Introduction

As announced in the European Green Deal (https://ec.europa.eu/info/strategy/priorities-2019-2024/european-green-deal_en), the Commission adopted on 14 October 2020 a strategic Communication “Renovation Wave for Europe - greening our buildings, creating jobs, improving lives” (<https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1603122220757&uri=CELEX:52020DC0662%20>). It contains an action plan with specific regulatory, financing and enabling measures for the years to come and pursues the aim to at least double the annual energy renovation rate of buildings by 2030 and to foster deep renovations. It is expected that mobilising forces at all levels towards these goals will result in 35 million building units renovated by 2030.

The Renovation Wave (<https://www.consilium.europa.eu/en/press/press-releases/2020/12/11/european-council-conclusions-10-11-december-2020/>) confirms that the existing legislative measures on buildings will neither suffice to achieve the increased EU 2030 climate target of at least 55% emission reduction target and the planned increase in the ambition for energy efficiency, nor the 2050 climate neutrality objective. Therefore, the Renovation Wave communication announces a revision of the Energy Performance of Buildings Directive 2010/31/EU (EPBD) together with a number of areas of legislative and non-legislative reinforcement in relation to building renovation and decarbonisation of buildings. The EPBD is the cornerstone of European legislation in the area of energy performance of buildings. It aims at accelerating the transformation of the EU building stock into a highly energy efficient and decarbonised building stock by 2050.

The Renovation Wave already indicated some specific aspects which will be addressed in the revision of the EPBD, namely: the phased introduction of mandatory minimum energy performance standards for all types of buildings (public and private), an update of the framework for Energy Performance Certificates, the introduction of Building Renovation Passports and the introduction of a ‘deep renovation’ standard in the context of financing and building decarbonisation objectives. The requirements for new buildings and measures fostering sustainable mobility are also considered to be updated in line with the enhanced climate ambition of the European Green Deal and the Climate Target Plan 2030. This includes addressing resource efficiency and circularity principles in order to reduce whole lifecycle emissions, digitalisation in design, construction and operation of buildings, climate resilience and health and environmental requirements, as well as accessibility for persons with disabilities, and energy poverty, requires consideration. More information is provided in the Inception Impact Assessment (<https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/12910-Revision-of-the-Energy-Performance-of-Buildings-Directive-2010-31-EU%20>).

This questionnaire is part of a larger stakeholder consultation which will feed into the Commission’s work on the revision of the EPBD. It builds upon the results from the very extensive and in-depth public consultation for the Renovation Wave that took place between January and September 2020, whose results have been

assessed in a dedicated report

(https://ec.europa.eu/energy/sites/ener/files/stakeholder_consultation_on_the_renovation_wave_initiative.pdf).

About you

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Part A. Planning and policy instruments

Decarbonisation of buildings

Question 1. The long-term decarbonisation strategy (<https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52018DC0773&from=EN>) has introduced the concept of zero emission buildings by 2050, in view of achieving carbon neutrality in the long term. Do you agree that such a novel concept should be defined in the EPBD?

- Yes
 No, it is not needed in the EPBD
 No opinion

If yes,

- It should include greenhouse gas emissions covering the whole life-cycle of buildings
 It should include minimum renewable energy share in buildings and city neighbourhoods
 It should refer to a timeline to gradually phase out fossil fuels, in particular for heating and cooling systems
 Other - please specify in comment box

*Please specify:

500 character(s) maximum

Achieving EU's 2030 Climate and Energy goals will require radical solutions, especially for buildings. A definition would clarify the practical implications of this concept and empower regions, cities and their energy agencies in promoting radical renovation projects. EPBD should indicate means to include estimated GHG emissions from embodied and operating energy in the energy efficiency methodology of each Member State. Such a methodology should be integrated into physical urban planning.

Question 2. Long-Term Renovation Strategies (LTRS) set the vision, roadmap, concrete policy measures and actions, and dedicated financing mechanisms to decarbonise national building stocks by 2050. The first 13 LTRS (https://ec.europa.eu/energy/topics/energy-efficiency/energy-efficient-buildings/long-term-renovation-strategies_en) submitted have been assessed by the Commission. Under the existing legal framework the LTRS are due every 10 years, with a possibility for updates as foreseen under the Governance Regulation.

Should the EPBD provisions on the Long Term Renovation Strategies be modified?

- Yes
 No

*If yes, how?

1,000 character(s) maximum

Many of the existing LTRS are already outdated and should be aligned with the new 2030 climate and energy targets by 2024, taking into account the enhancements brought by the "fit for 55" package. Current LTRS do not take sufficiently into account the investments in renovations leveraged by regional market facilitation activities such as the ones provided by energy agencies. These services stimulate the energy services markets, exponentially increase the demand for renovation as well as prepare the regional supply chains to respond effectively and with a focus on deep renovation. Support to upscaling and replicating one-stop shop services is also rarely mentioned in the LTRS. In many countries the development of the LTRS did not ignite a public debate mobilizing local/regional stakeholders from the renovation sector, resulting in unsubstantiated and deficient proposals of action (strengthening of art.2a §5 should be considered).

Question 3. Should the monitoring of the objectives identified by MSs in their LTRS be strengthened?

- Yes
 No

If yes,

- Through a specific monitoring tool to be developed by the Commission
 By requiring a 5-year revision of the LTRS
 By developing a common template and requesting specific data and indicators, in order to make the information provided by Member States more comparable
 By requesting more data, especially on greenhouse gas emission effects, to allow assessing the contributions to the EU climate policy targets
 By linking the LTRS to other policies (heating and cooling, renewables, products, etc.)
 Other - please specify in comment box
 No opinion

Question 4. Which measures would you add in the EPBD to further support district and city authorities to increase energy efficiency in buildings and to accelerate the rate of replacement of boilers by carbon free ones based on renewable energy?

1,000 character(s) maximum

Local authorities require increased technical assistance and market facilitation services in order to: upscale projects from building-by-building to neighborhood renovations; develop one-stop shops for tailored advice to homeowners and vulnerable consumers; blend financing streams; build local capacity. Embedding the energy agency facilitation model within art. 10 & 20 of the EPBD would maximise the impact of its provisions at local level. Market facilitation by independent intermediaries with public mandates such as local/regional energy agencies focuses on market activation (segmentation, mobilization), project development and implementation (financing, legal, technical assistance) and has leveraged large investments (see ManagEnergy results). EPBD should require MS to upscale/replicate successful fuel switch campaigns led by regional energy agencies in Upper Austria, Castilla y León and Ile de France, with ready-to-use tools, methods considering the EE first principle.

Resource efficiency and climate resilience in buildings renovation

The European Green Deal points to energy and resource efficiency. Following this, the new Circular Economy Action Plan (CEAP) (https://ec.europa.eu/environment/circular-economy/index_en.htm) adopted in March 2020 acknowledges that reaching climate neutrality by 2050 requires highly energy and resource efficient buildings equipped with renewable energy, considering life cycle performance and a more efficient use of resources for building renovation and construction. The Renovation Wave equally sets our actions in this regard, such as the development of a 2050 whole life cycle performance roadmap to reduce carbon emissions from buildings.

Question 5. Do you think a revised EPBD should include measures to report on whole life-cycle carbon emissions from buildings (manufacturing and construction, use and end of life)?

- Yes
- No, the EPBD is not the right tool for this
- I don't know/ No opinion

If yes,

- For all buildings (new buildings and renovations)
- For all new buildings
- For renovations only
- For all new public buildings
- For renovations of public buildings only
- For a subset of private non-residential buildings such as shopping centres or datacenters
- The opportunity should be considered in the context of the revision evaluation mandated for 2026

Comment:

500 character(s) maximum

EPBD should incrementally prescribe LCCE indicators for new buildings first, followed by existing buildings. Benchmarks would require national/regional tailoring and embedding within regional circular economy strategies. The LEVELS framework is a good basis to start from. Reporting requirements would however currently be challenging to implement in practice requiring the development of simplified life cycle cost assessment tools to assess the impact of materials.

Question 6. Should the EPBD require that the likely impacts of climate change are taken into account in the planning of new buildings and major renovations?

- Yes
 No, the EPBD is not the right tool for this
 No opinion

If yes,

- For new private buildings (residential and non-residential)
 For new public buildings
 For private renovations
 For renovations of public buildings
 In the case of private buildings, only if they are above a certain size
 In case of private buildings, only for a subset of non-residential buildings such as offices or commercial buildings
 The opportunity should be considered in the context of the revision evaluation mandated for 2026

Question 7. As announced in the Renovation Wave, the Commission will develop a 2050 whole life-cycle performance roadmap¹ to reduce carbon emissions from buildings and advancing national benchmarking with Member States. How do you think the EPBD could contribute to this roadmap?

1,000 character(s) maximum

The EPBD could contribute to the roadmap by requiring MS to strengthen the capacity of regions to assess flows of materials in their territories related to the building construction sector. Energy agencies such as in the Ile-de-France and Auvergne-Rhône-Alpes regions began monitoring these flows in order to accompany their territorial circular economy strategies and help decarbonize the construction sector, however much more support would be needed to consolidate their know-how and replicate their tools such as regional energy & climate observatories. Such initiatives have developed across Europe (more info here: energee-watch.eu) and are specialised in collecting energy, environment and climate related data, processing it and informing local/regional policy makers. Their involvement should be foreseen in the 2050 whole life-cycle performance roadmap as the finesse of their data can improve the effectiveness and reactivity of sustainability policies.

¹The Roadmap is one of the actions foreseen in the Renovation Wave Communication (COM(2020) 662 final) to make the construction ecosystem fit to deliver sustainable renovation.

Nearly zero-energy buildings (NZEB)

Question 8. The EPBD requires all new buildings from 2021 (public buildings from 2019) to be nearly zero-energy buildings (NZEB). According to Article 2 (https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.L_.2018.156.01.0075.01.ENG) "nearly zero-energy building" means a building that has a

very high energy performance, as determined in accordance with Annex I. The nearly zero or very low amount of energy required should be covered to a very significant extent from renewable sources, including sources produced on-site or nearby. Do you think that the current definitions for NZEBs are ambitious enough to contribute towards a fully decarbonised building stock?

- Yes, the current definition is ambitious enough
- No
- No opinion

If no,

- The current definition should be updated to put clear limits to energy use and minimum levels of renewables and incorporate green-house gas emissions targets
- The current definition should be replaced by a definition of “zero emissions buildings”
- Other - please specify in comment box

*Please specify:

500 character(s) maximum

The NZEB definition should be clarified with ambitious numeric thresholds in terms of primary energy use and exclusive use of renewables as a source of energy. The RES and energy management technological progresses and the know-how on deep renovation among regions, cities and their energy agencies justify an EU definition that sets a strong standard for the decarbonization of the building stock.

Question 9. Numeric thresholds or ranges for NZEBs are not defined in the EPBD. While this allows Member States to set their NZEB levels taking into account their national context, it also results in widely differing definitions from country to country. Is a more harmonised definition of NZEB necessary?

- Yes
- No, it is not necessary
- I don't know/ No opinion

If yes,

- Minimum thresholds for primary energy use in the building's operation should be defined in the EPBD for different climate zones
- Minimum renewable energy sources share should be introduced in the EPBD for different climate zones
- Both minimum thresholds for primary energy use and renewable energy sources share in the building's operation should be introduced in the EPBD for different climate zones
- Life-cycle greenhouse-gas performance should also be included
- Other - please specify in comment box

*Please specify:

500 character(s) maximum

While harmonization could raise the level of ambition in certain countries and enables comparability and exchanges of good practices, national/climate contexts will remain necessary factors to consider as construction markets, methods, materials and capacity vary greatly across the EU. Strengthened enforcement and monitoring of the NZEB standard across the EU is also required to make sure it is applied consistently throughout the building stock.

Deeper building renovations

Question 10. Deep renovation is understood to be a renovation that should generate at least 60% energy savings, whether carried out in a single stage or in a number of staged renovations. In your view, would it be beneficial to provide a legal definition of “deep renovation” in the EPBD?

- Yes
- No, a definition would add further complexity
- I don't know/ No opinion

If yes,

- The definition should relate to energy savings only
- The definition should relate to energy savings also expressed in terms of greenhouse gas emissions related to the use of energy
- The definition should relate to both operational and embodied greenhouse gas emissions covering emissions from the full life-cycle of buildings
- The definition should cover broader aspects that have an impact on the quality of renovations, such as health and environmental standards, accessibility for persons with disabilities, climate resilience or others - please specify in comment box
- Other - please specify in comment box

*Other broad aspects? Please specify:

500 character(s) maximum

In regions around the Mediterranean, recent seismic activity revealed the need to consider renovation in a broader perspective, taking into consideration seismic risks as well. This might lead in exceptional cases to considering demolition and reconstruction as an option instead of renovation.

*Please specify:

500 character(s) maximum

A “deep renovation” legal definition would help avoid lock-in effects, build trust and predictability for the renovation and financial sectors. Such a definition should rely on the “energy efficiency first principle”, with a priority focus on the energy savings (min.60%) in relation with the comfort quality (temperature, indoor air, lighting). Projects such as QualdeEPC (such as <https://qualdeepc.eu/>) propose technical recommendations for such a definition.

Mandatory minimum energy performance standards ('MEPS')

Mandatory renovation/minimum performance requirements are one of the most impactful measures for increasing the rate of building renovation and have already been explored and implemented in some Member States. Their aim is to firm up investors' expectations by setting a path for the improvement of the energy performance of different classes of buildings thus gradually increasing the average performance of the national building stock. Mandatory renovation/minimum performance requirements could be introduced progressively and target specific segments as a priority.

Question 11. In your opinion, should the EPBD introduce mandatory minimum energy performance standards to be applied in the EU, subject to specific conditions to be determined?

- Yes

- No
- I don't know/ No opinion

Please explain your answer:

1,000 character(s) maximum

In order to reach EU's 2030 climate ambitions and carbon neutrality by 2050, MEPS are an indispensable tool which could provide a binding calendar for the deep renovation of EU's building stock, providing much needed predictability to local/regional authorities, the construction sector, to market facilitators such as energy agencies as well as investors. MEPS should cover all categories of buildings with a priority on the worst-performing ones. The success of MEPS will however rely on their enabling framework which should prioritise technical assistance programmes focusing on the upscaling and replication of existing one-stop shops services. Such services such as the ones provided by regional energy agencies across EU, beyond massifying the demand for renovation as well as raising the rate of deep renovations, also focus on preparing the regional supply chains to match the demand, thus locally anchoring the economic benefits of the renovation programme.

Question 12. What type of minimum energy performance standards do you consider most appropriate?

- Building-level performance standards, focusing on the overall energy efficiency of the building (for example linked to an Energy Performance Certificates ('EPC') class or the energy codes, specific energy consumption, another carbon metric, etc.)
- Building element-level performance standards, setting specific minimum levels of building elements (for the envelope and/or the technical building systems including heating and cooling)
- Minimum quality standards, including also other aspects beyond energy performance, such as thermal comfort - please specify in comment box
- Others - please specify in comment box
- I don't know / No opinion

Please explain your answer:

1,500 character(s) maximum

MEPS should consider the building-level performance in order to drive comprehensive deep renovations which are indispensable to achieve EU's 2030 goals. Element-level MEPS present the risk of seeing unambitious targets being set in certain countries or inaction in others where such MEPS already exist. MEPS should focus on delivering comprehensive deep renovation (in accordance with the deep renovations definition, see. Q10) and avoid any risks of lock-in of suboptimal renovations. To this end, independent market intermediaries with public mandates such as local/regional energy agencies who advise renovation projects for public authorities, residential as well as businesses will be crucial to implement deep renovation standards and enforce the MEPS. Such functional enabling framework can be seen in France where the "éco énergie tertiaire" decree scheduling the renovation of public buildings in steps by 2030, 2040 and 2050 has empowered territorial renovation platforms such as BAPAUURA (<https://bapaura.fr/>) to encourage immediate deep renovation avoiding the necessity of subsequent renovations. Monitoring the enforcement of the MEPS will however require improving the accessibility to energy data of buildings. Regional energy observatories will be instrumental however their access to energy data related to buildings remains hindered by reluctant utilities and insufficient coverage of and access to EPCs. Strengthening the EPBD's art. 10.6b should be considered.

Question 13. In your view, for which category of buildings should mandatory minimum energy performance standards be applied?

at most 2 choice(s)

- All residential and non-residential buildings
- All residential buildings being sold and/or rented out
- All residential buildings
- A subset of residential buildings to be defined (please specify in comment box)
- All non-residential buildings
- All non-residential buildings being sold and/or rented out
- A subset of non-residential buildings to be defined (please specify in comment box)
- All public buildings (with a total floor area of more than 250 m²)
- Only to worst-performing buildings irrespective of their ownership and use profile
- Other (please specify in comment box)
- I don't know / No opinion

*Other? Please specify:

500 character(s) maximum

MEPS should cover all categories of buildings, with a careful complementarity with art.5 of the EED regarding public buildings. Social safeguards and tailored roll-out measures should however be foreseen to make sure standards appropriately address energy poverty. To this end, urban regeneration one-stop shops such as Opengela in Basque Country (<https://opengela.eus/en>) will be essential and technical assistance programmes can replicate such initiatives.

Question 14. Do you think that mandatory minimum energy performance standards should be introduced:

- Yes
- No, I don't believe that mandatory minimum standards are appropriate
- I don't know / No opinion

If yes,

- Linked to specific moments in the life cycle of a building, for example a transaction (e.g. the sale, rental or lease of a building)
- On the basis of a timetable for a staged approach to achieve specific energy performance levels
- Other - please specify in the comment box

*Please specify:

500 character(s) maximum

MEPS should be set on the basis of a binding timetable in order to set a clear decarbonization roadmap, with milestones, enabling the market intermediaries and supply chains to scale up this decade. MEPS should therefore be included the national long term renovation strategies and provide a clear blueprint for funding programmes. Trigger points should be used only as an additional tool to stimulate renovations as their variability disqualifies them as stand-alone method for MEPS.

Question 15. In your view, what is the most important element that could guarantee a successful roll-out of mandatory minimum energy performance standards?

- The availability of financial support to buildings owners

- The correct identification of the worst-performing buildings
- The presence of a stable legal framework
- The availability of adequate workforce capacity to do renovations
- The availability of emerging technologies facilitating rapid renovation works
- Other - please specify in comment box
- I don't know / No opinion

*Please specify:

500 character(s) maximum

All the above points are important however, the existence of EU/national technical assistance funding programmes and independent market facilitation ties them all. Technical assistance at local/regional level helps upscale/replicate one-stop shops with schemes that blend multiple financing streams (e.g. <https://superhomes.ie/>). Regional market facilitation provided by energy agencies stimulate the energy services markets, build capacity, foster deep renovation and prepare regional supply chains.

Public buildings

Question 16. In your view, which of the following regulatory measures should be envisaged to increase the rate and depth of renovation of public buildings in a sustainable manner?

- Introduction of more stringent minimum energy performance requirements for renovation of public buildings
- Introduction of minimum energy performance standards in public buildings, with an obligation to achieve progressively more ambitious levels
- Introduction of life cycle aspects in the design, construction and operation of refurbished public buildings (e.g. circular approaches like extension of service life, adaptability and flexibility, reuse and recycling of materials)
- Introduction of climate resilience aspects in the design and operation of new and refurbished public buildings
- Other - please specify in comment box
- I don't know / No opinion

*Please specify:

500 character(s) maximum

MEPS and appropriate enabling frameworks are key. Regulatory measures should encourage the development of regional one-stop shops that provide practical support to public authorities, support smaller municipalities as well, enable the aggregation of projects and deeper renovations in accordance with MEPS, use EPC blending multiple financial sources, prepare local/regional supply chains to respond to the demand (e.g. <https://bapaura.fr/>).

Electromobility

Question 17. The provisions on electromobility in Article 8 of the EPBD targeting the installation of recharging points in car parks adjacent to buildings were recently introduced. With the strengthened climate ambition and the increased incentives towards the uptake of electric cars but also with the strong increase in (electric) bike/cargo-bike use, do you think there is a need to strengthen the requirements?

	Yes	No	I don't know/ No opinion
For new residential buildings	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
For refurbished buildings	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
For new non-residential buildings	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
For refurbished non-residential buildings	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>

Question 18. In your view, what kind of requirement would be needed?

	Y e s	N o	I don't know/ No opinio n
The installation of recharging points to support smart charging, allowing to monitor, control and optimise energy usage when recharging electric vehicles	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
The inclusion of provisions for recharging points for vehicles other than cars (e.g. e-bikes)	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
To give owners of an apartment in multi-dwelling buildings the right to install a recharging point for their parking spot in the shared parking garage (right to plug)	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>

Other measures? Please specify:

500 character(s) maximum

In some countries such as Spain, old buildings have transformers next to which fast charging points could be installed to charge at night (using the cheaper electric tariff). In general efforts should focus on installing EV infrastructure in existing buildings.
Reaching EU's climate targets will also require the promotion of "non-transport" options (e.g. sustainable travel policies in public administrations & companies: REDI project in Sweden) as well as smart mobility services.

Question 19. Are you aware of administrative barriers preventing the deployment of charging points in buildings in your country?

- Yes
 No

*If yes, please elaborate:

1,000 character(s) maximum

Giving owners the right to install their own charging points in common areas would also require facilitated procedures ensuring they can exercise their "right to plug" and avoiding complex neighbor consensus conditionalities.

Part B. Information provision and energy performance certificates

Energy performance certificates (EPCs)

Energy performance certificates (EPCs) is an instrument aimed at informing building owners, tenants and users about the cost of heating and cooling, savings that investments would bring and offer benchmarks to compare similar buildings. EPCs are also needed to link preferential financing conditions to quality renovations. Under the existing EU regulatory framework, EPCs are compulsory for buildings being built, sold or rented and the energy class of the EPC must also be shown in advertisement media. They are also compulsory for buildings over 250 m² occupied by a public authority and frequently visited by the public. EPCs can also be used to plan policy or to monitor the performance of measures when these are implemented. However, the coverage of such certificates strongly differs across Member States.

Question 20. Do you agree that the framework for Energy Performance Certificates should be updated and their quality improved?

- Yes
- No, it's not necessary
- Other - please specify in the comment box
- I don't know / No opinion

*Please specify:

500 character(s) maximum

Yes, strengthening the EPC framework will also require a greater enforcement and quality verification. Regional energy agencies use EPC data to inform funding programmes, aggregation projects and procurement. Quality data is key. EPCs must evolve into BRPs which prescribe a building's deep renovation roadmap, based on on-site energy audits with specific quality criteria, including non-energy elements (fire/seismic safety, comfort) combined with user-friendly renovation plans and digital logbooks.

Question 21. Is harmonization of EPCs needed to accelerate the increase of building performance and how can it be achieved?

- Yes, it is needed and can be achieved by introducing a common template
- Yes, it is needed and can be achieved by other means - please specify in comment box
- Yes, it is needed but some national specification should be retained - please specify in comment box
- No, harmonisation is not needed
- I don't know / No opinion

*Other means? Please specify:

1,500 character(s) maximum

While the potential benefits of harmonization are well documented by projects such as <https://qualdeepc.eu/> the complexity and related costs of a pan-European harmonization should be considered as well. In some countries such as Italy, each region has its own EPC database, with different algorithms, different levels of quality and coverages of buildings. In such cases, considering harmonization at national level would already represent a challenge however, the evolution towards "building renovation passports" could be an opportunity to determine common indicators, leaving room for national/regional specifications. This harmonization should however be planned in coordination with the roll-out of MEPS, digital logbooks as well as local/regional one-stop shops. While MEPS while have to rely on the achievement of certain EPC classes, one-stop shops require high-quality EPC data to develop their business models, segment their target groups and plan their renovation programmes.

Please explain your choice:

500 character(s) maximum

Question 22. How would you rate the following elements in order to improve the quality and impact of EPC requirements?

- 0 – No opinion
- 1 – Not important
- 2 – Of little importance
- 3 – Moderately important
- 4 – Important
- 5 – Very important

	0	1	2	3	4	5
Improve training for independent experts	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Develop professional qualification schemes or labels for installers of technical buildings systems	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Improve quality control mechanisms	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Include further information on estimated costs, energy savings or cost savings	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Include information on non-financial benefits such as increased comfort and climate resilience	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Tailor the recommendations towards deep renovations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Develop an accessible EPC database with further information on the EPC, explanation of the different terms, benchmarks and comparison with similar buildings	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Increase the number of mandatory indicators to include: greenhouse gas emissions, generation of renewable energy, breakdown of different energy uses (e.g. heating, ventilation, lighting, etc.) or type of systems installed	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>

Increase the interoperability with other tools such as digital building logbooks, SRIs and renovation passports.

<input type="radio"/>	<input checked="" type="radio"/>				
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Comment:

500 character(s) maximum

EPC coverage must be expanded to all EU's building stock with the aim of having an EPC for every building by 2030. Fora of energy auditors should as well be required to enforce more stringent quality checks and penalties in case of non-compliance. Some regional energy observatories managed by energy agencies started specializing on buildings performance data (see Q26) utilizing multiple sources of data. With access to EPC open databases they could cross-check them with other databases (seeQ23).

Question 23. Which elements are the most important to ensure compliance with EPC requirements?

at most 3 choice(s)

- Provision of detailed guidelines for EPC (including use of visual identity, common logo, recommended indicators)
- More stringent penalties in case of non-compliance, for instance in relation to the advertisement of sales or rent of buildings
- Extend liability to all the market actors involved in the selling/renting of properties
- Making EPCs mandatory to access any financial incentive targeting buildings renovations
- Accessible EPC database with benchmarks allowing comparison with similar buildings
- Introduce information flow and cross-checks between EPC databases and other databases containing information on buildings or products (e.g. national building registry or cadastre, energy labelling database for products, digital building logbooks, other national statistics, etc.)
- Other measures - please specify in comment box

Smartness of buildings and wider modernisation

Question 24. The objective of the Building Renovation Passport (BRP) is to provide a long-term, step-by-step renovation roadmap for a specific building based on quality criteria, following an energy audit, and outlining relevant measures and renovations that could improve the energy performance and the quality of the building. The BRP schemes and initiatives in the EU are diverse and most of them have not reached their full potential, while some are still at the research phase. Which measures do you think could best support the uptake of a building renovation passport?

at most 3 choice(s)

- Guidelines and best practice exchange on how the BRP can support the objectives of the Long Term Renovation Strategy
- National/regional communication campaigns to increase awareness of the BRPs
- Training of energy experts
- Making funds, such as the European Energy Efficiency Fund or ELENA, available to the Member States for BRP development and implementation
- Guidelines on how to support and enable banks to offer a favourable interest rate on loans/mortgages which are linked to a BRP
- Legal requirement to be introduced in the EPBD review for the Commission to develop a common template for BRPs
- Legal requirement to be introduced in the EPBD review for the Commission to develop a voluntary BRP scheme

- Legal requirement to be introduced in the EPBD review stating that BRP becomes mandatory for certain building types (replicating the EPC regulations, buildings for sale, etc.) after 2030.
- No measure is necessary
- Other - please specify in comment box
- I don't know / No opinion

*Other? Please specify:

500 character(s) maximum

Absence of complete technical books for each building remains a barrier to renovation and BRPs could be the solution. BRPs should be rolled-out with digital logbooks informing the "energy" aspects enabling data access to all relevant stakeholders. Achieving the objectives of the "renovation wave" require transformative measures going beyond solely the energy aspects of buildings embracing comfort and design aspects as well. To this end the new EU Bauhaus could play a key role in its roll-out.

Question 25. The Commission has created a uniform scheme for Smart Readiness Indicators in the EU. The scheme is currently voluntary, and has the potential to promote the digitalisation of buildings and the role that buildings can play in smart sector integration.

What would you consider to be the best ways in which the Smart Readiness Indicator could support the role of buildings in smart sector integration?

- Continue with the current framework and focus on its implementation on a voluntary basis
- Introduce SRI as mandatory requirement for non-residential buildings
- Introduce SRI as mandatory requirement for all new buildings
- Introduce SRI as mandatory requirement for all buildings
- Support the development of links between the SRI and other schemes (e.g. EPCs, building renovation passports, building logbooks, etc.)
- Other - please specify in comment box
- I don't know / No opinion

*Please specify:

500 character(s) maximum

SRI can support the transformation of buildings in active hubs within smart grids, with enhanced demand response and flexibility, enabling efficient energy consumption, RES production and storage (electricity & heat). Mandatory SRI should apply first to buildings with larger consumption and/or capabilities to participate in the energy market (flexible consumption heating & cooling). SRI roll-out must be linked with other schemes (BRPs...) and eventually become mandatory for all new buildings.

Question 26. Do you think that the EPBD can contribute in making a wider range of building-related data on the energy performance of a building and its related construction and renovation works, across its life cycle, available and accessible? (note: building related data can come from a variety of sources: SRI, logbook and EPCs, Level(s), grant schemes, building permits, digital models)

- Yes
- No
- No opinion

Please explain your answer:

1,000 character(s) maximum

Regional Energy Observatories with public mandates managed by energy agencies across Europe started specializing on buildings related data, monitoring the energy performance of residential buildings (e.g. "observatoires des copropriétés", Ile-de-France), installing & monitoring energy management systems, monitoring GHG emissions, available bio-based materials in the territories and informing circular economy strategies (e.g. ORCAE, Auvergne-Rhône-Alpes). Energy data providers (utilities, DSOs...) should be legally obligated to cooperate with such operators and share energy related data in appropriate formats. In countries such as Romania utilities have a wealth of energy performance related data that remains underutilized, serving only invoicing purposes. Strengthening the EPBD's art. 10.6b could facilitate access to aggregated energy data. The EPBD could require MS to upscale/replicate observatory services who have become trusted advisors of local/regional authorities across the EU.

Part 3. Enabling more accessible and affordable financing for building renovation

Question 27. The Renovation Wave Communication identify the need of sensible additional investments in building renovation in order to double the yearly renovation rate across Europe, decarbonise the building stock and achieve 2030 energy efficiency targets. Public financing alone will not be enough to achieve these objectives; it will be seminal to enable more accessible and affordable private financing options for building renovation. How would you rate the following possible forms of support to renovations?

- 0 – No opinion
- 1 – Not important
- 2 – Of little importance
- 3 – Moderately important
- 4 – Important
- 5 – Very important

	0	1	2	3	4	5
Public guarantee for commercial banks to offer low-interest loans for renovation of worst performing buildings	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Direct grants support to low-income citizens living on worst performing buildings	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
ESCOs financing of low-interest loans payback through on-bill recovery	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Tax incentives during a period of time to provide additional economic support	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
One stop shops for all types of renovation advice	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>

Support the development of energy efficiency mortgages and other innovative financing options that will enable private financing institutions to offer low-interest loans based on the improvements of energy performance of buildings or on building renovation passports	<input type="radio"/>	<input checked="" type="radio"/>				
Technical assistance facilities supporting the development of building renovation project for the building stock of local and regional authorities	<input type="radio"/>	<input checked="" type="radio"/>				

Other kind of support? Please specify:

500 character(s) maximum

Local/regional authorities require enhanced programmes for technical assistance and market facilitation services to: upscale projects going from building-to-building renovations to neighborhood-to-neighborhood; develop one-stop shops for tailored advice to homeowners and vulnerable consumers; blend financing streams; build local capacity. Embedding the energy agency facilitation model (see Q4 response) within art. 10 & 20 of the EPBD would maximise the impact of its provisions at local level.

Question 28. Deep renovations do not always result in a rapid return on investment. In your opinion, how public financial incentives can be used to stimulate deeper renovations across the EU?

1,000 character(s) maximum

RoI should also be complemented by criteria such as indoor comfort, building purpose, cultural value and environmental impact when evaluating proposals for funding deep renovation. Public funding should support the development of integrated services focused on deep renovation in accordance with the timelines imposed by MEPS. These services develop financing schemes with multiple streams, stimulate exponential growth of demand, prioritize deep renovations for all buildings as well as prepare the supply chains. By preparing regional ESCOs to match demand and streamlining the use of the territory's bio-based materials, regional energy agencies turn deep renovation into a driver for economic development demonstrating its multiple economic benefits. Facilitation activities should be strengthened in order to reach the Renovation Wave's deep renovation targets towards 2030 but also to embed energy efficiency within territorial development strategies.

Question 29. Do you think that funding support to renovations should be linked to the depth of renovation?

- Yes
 No, it is not necessary
 I don't know / No opinion

If yes,

- The intensity of funding should depend on the depth of renovations based on the Energy Performance Certificates ('EPC') class achieved
 All public funding scheme for private building renovation should consider a mandatory minimum requirement of at least 60% energy savings
 All public funding scheme for private building renovation should consider a mandatory minimum requirement of at least 30% energy savings
 Other - please specify in the comment box

*Please specify:

500 character(s) maximum

The goals of the renovation wave require radical solutions and avoiding at all cost lock-in investments in sub-optimal renovations. Prescribed by ambitious MEPS, the rate of deep renovations can be achieved through funding schemes that condition it (proportionally), as well with the support of local/regional independent intermediaries such as energy agencies who through their one-stop-shops advise and promote deep renovation in the public and residential sectors.

Question 30. In your view, which of the following measures would help to further support the renovation of public buildings?

- Technical assistance for public authorities (national, regional, local) to design and implement comprehensive renovation programmes (ELENA model), including linkages other related climate-resilience policies in urban and rural areas
- Enhanced deployment and capacity building for energy performance contracting in the public sector (including accounting rules)
- Financial incentives to support companies providing energy performance contracting
- Public-private partnerships to inform and assist efforts of public authorities for building renovation and ease access to financing
- Framework contracts at national, regional or local level with the specific objective of renovating public buildings
- Other measures - please specify in comment box
- I don't know/ No opinion

*Please specify:

1,500 character(s) maximum

Local/regional authorities require increased technical assistance and market facilitation services in order to clearly identify their renovation potential of their own building stock and engage in large scale renovation projects.

Technical assistance such as ELENA or PDA were instrumental in aggregating smaller projects but as well developing integrated renovation services for public buildings (e.g. <https://bapaura.fr/>) which enable to: upscale projects going from building-to-building renovations pooling buildings of different sizes; financing streams; build local capacity in public administrations; stimulate regional supply chains to respond to rise in demand.

Members states should also be required to support market facilitation activities in order to stimulate the energy efficiency markets. Market facilitation by independent intermediaries with public mandates such as local/regional energy agencies focuses on market activation (segmentation, mobilization), project development and implementation (financing, legal, technical assistance) and has leveraged large scale investments (see ManagEnergy results). Embedding the energy agency facilitation model within art. 10 & 20 of the EPBD would maximise the impact of its provisions at local level. Unless this facilitation model is recognised and resourced, ambitious concepts/investments at local and regional level will not be translated into realised energy and carbon savings.

Question 31. As part of their Long-Term Renovation Strategies (LTRS), Member States must outline relevant national measures to reduce energy poverty. The Renovation Wave Communication indicates a number of measures to tackle energy poverty and renovate worst-performing buildings, including social

housing. It also states that vulnerable households must be shielded from rent increases that may follow renovations. What do you think are the most important policy areas addressing energy poverty to be further reinforced?

at most 3 choice(s)

- Targeted financial support for lower and middle income households
- Minimum energy performance standards coupled with financing that limits the monthly net expenditure of the inhabitants
- Other additional legislative measures (please specify in the comment box)
- The Affordable Housing Initiative
- The Energy Poverty Observatory
- Other measures (please specify in the comment box)
- I don't know / No opinion

Other measures? Please specify:

500 character(s) maximum

Effective targeting and direct advice are key to address energy poverty and can be provided by urban regeneration one-stop shops such as Opengela, in Basque Country. Technical assistance programmes can replicate such initiatives. RES must also be made accessible to the energy poor (see solutions of interreg project POWERTY). Mobility related energy poverty require smart mobility solutions that can be funded through savings certificates (art.7EED) (e.genD-Aura project, in Auvergne-Rhône-Alpes).

Further comments

Question 32. Do you have any further comments on policy aspects relevant for the decarbonisation of building which are not covered above?

1,000 character(s) maximum

As mentioned in previous responses, market facilitation performed by independent market intermediaries with public mandates such as local and regional energy agencies is an important driver behind the enforcement of the EPBD as their services focus on: advising on development and ensuring compliance with minimum energy performance requirements (art.4); optimising technical building systems through energy management systems (art.8); promoting the NZEB standard and providing practical support to achieve it (art.9); developing financial schemes and overcoming market barriers through strategic facilitation actions (art.10); issuing high quality EPC and implementing their recommendations (art.11); informing and activating all relevant stakeholders linked to building renovation projects (art.20). We believe embedding the energy agency facilitation model within art. 10 & 20 of the EPBD would maximise the impact of all its provisions at local level.

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