

Energy Performance of Buildings Directive review

The recast of the Energy Performance of Buildings Directive aims to make sure the European Union reaches its climate targets. Negotiations are still ongoing, but we can already highlight five major changes to the current Directive and foresee some impact on banks

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Energy Performance of Buildings

Directive review: major renovations ahead

The recast of the Energy Performance of Building Directive aims to ensure that the European Union reaches its climate targets. Negotiations are still ongoing, but we can already highlight five major changes to the current directive such as the setting of minimum energy performance standards and the harmonisation of the energy performance certificates



New, zero-emission residential buildings in Milan, Italy

Introduction

For several years now, the European Union has been setting a strategic agenda to tackle climate change in its entirety with the intention of transforming the EU into a climate-neutral, green, and fair society. A major commitment was taken with the enforcement of the European Climate Law in 2021. The Climate Law makes the reduction of EU greenhouse gas (GHG) emissions by at least 55% by 2030 a legal obligation. In order to reach this target, a set of proposals to revise and update the EU legislation was introduced through the “Fit for 55” package.

Considering the magnitude of the climate crisis, legislation has been proposed in 12 different policy

areas, from land use and forestry to aviation and maritime transport. One focal point has been the review of the Energy Performance of Buildings Directive (EPBD).

This piece provides an introductory overview of the context, goals and expected policy developments. It's tailored towards decision-makers in financial institutions and investors. Another piece separately describes the expected effect of this new regulation.

Fit for 55 quick peak

The Fit for 55 package serves as a framework for attaining EU climate objectives such as ensuring a just and fair transition, maintaining the strong competitiveness of the union and positioning the EU as a leader in the fight against climate change.

It proposes legislation in the following 12 policy areas:

- EU emission trading system (ETS)
- Effort sharing regulation
- Land use and forestry (LULUCF)
- Alternative fuels infrastructure
- Carbon border adjustment mechanism
- Social climate fund
- RefuelEU aviation and FuelEU maritime
- CO2 emission standards for cars and vans
- Energy taxation
- Renewable energy
- Energy efficiency
- Energy performance of buildings (EPBD)

The last review of the EPBD dates from 2018, enforcing the long-term building renovation plan obligation for member states. The topic is crucial to reaching the goal of emissions reduction as buildings account for 40% of the energy consumed and 36% of energy-related direct and indirect greenhouse gas (GHG) emissions. European renovations are currently insufficient to reach the objectives, especially with the annual energy renovation rate stagnating at 1% (European Commission). At this pace, it will take centuries to rebuild and upgrade the European building stock, let alone make it climate change resilient.

The recast of the EPBD is a crucial element of the Climate Law policy. The revision aims to upgrade the European building stock to zero-emission (ZEB) by 2050, increasing the previous requirement that aimed at nearly zero-energy buildings (NZEB). This now implies that roughly 75% of the building stock, which is considered inefficient, must be renovated in the next 25 years.

Zero-emission buildings (ZEB) are defined by the EPBD recast as buildings with very high energy performance where the very low amount of energy still required is fully covered by energy from renewable sources generated on-site, from a district heating and cooling system. (Commission's definition)

Nearly zero-energy buildings (NZEB) are defined as buildings with very high energy

performance which cannot be lower than the 2023 cost-optimal level reported by member states and where the 'nearly zero' or very low amount of energy required is covered to a very significant extent by energy from renewable sources, including energy from renewable sources produced on-site or nearby.

The update of the EPBD would therefore enforce stricter and more ambitious goals to upgrade the current building stock to be energy efficient and only rely on renewable energy sources when needed.

The European Commission's proposal to review the EPBD dates from December 2021 and became part of the legislative priorities for the year 2022. The Council came up with its general approach in October 2022, and it is now expected that the European Parliament will discuss a proposal based on the Commission's work and vote on their version on 24 January. Once parliament approves the text, the trilogue between the Council, Commission and Parliament will start. These interinstitutional negotiations aim at finding a compromise text. This step could be spread over the first two quarters of 2023. As negotiations are still ongoing, we expect the final text to include five major changes to the current EPBD.

1 Harmonised Energy Performance Certificates

The first major change of the EPBD is the introduction of harmonised Energy Performance Certificates (EPC). EPC labels are already in place, however, the methodology used to score buildings and the scoring scale itself currently vary between countries and even regions. The table below highlights these metrics and scale differences.

National EPC label differences

	DE	FR	NO	DK	FI	AU	IR	BE Brussels	BE Flanders	BE Wallonia	NL	IT	SW
Metric	Final energy kWh/m ² /y	Primary energy kWh/m ² /y	Energy delivered kWh/m ² /y	Primary energy kWh/m ² /y	Primary energy kWh/m ² /y	Primary energy kWh/m ² /y	Primary energy kWh/m ² /y	Primary energy kWh/m ² /y	Primary energy kWh/m ² /y	Primary energy kWh/m ² /y	Primary fossil energy use kWh/m ²	Energy Performance kWh/m ² /y vs reference building (A1)	Energy Performance kWh/m ² /y vs building built today (C)
A++++											≤ 0		
A+++											≤ 50	≤ 0.4	
A++				≤ 20		≤ 60	≤ 25				≤ 75	≤ 0.6	
A+	≤ 30			≤ 30		≤ 70	≤ 50			≤ 0	≤ 45	≤ 105	≤ 0.8
A	≤ 50	≤ 50	≤ 85	≤ 52.5	≤ 75	≤ 80	≤ 75	≤ 45	≤ 100	≤ 85	≤ 160	≤ 1.00	≤ 0.5
B	≤ 75	≤ 90	≤ 95	≤ 70	≤ 100	≤ 120	≤ 150	≤ 95	≤ 200	≤ 170	≤ 190	≤ 1.20	≤ 0.75
C	≤ 100	≤ 150	≤ 110	≤ 110	≤ 130	≤ 160	≤ 225	≤ 150	≤ 300	≤ 255	≤ 250	≤ 1.50	≤ 1.00
D	≤ 130	≤ 230	≤ 135	≤ 150	≤ 160	≤ 280	≤ 300	≤ 210	≤ 400	≤ 340	≤ 290	≤ 2.00	≤ 1.35
E	≤ 160	≤ 330	≤ 160	≤ 190	≤ 190	≤ 340	≤ 380	≤ 275	≤ 500	≤ 425	≤ 335	≤ 2.60	≤ 1.80
F	≤ 200	≤ 450	≤ 200	≤ 240	≤ 240	≤ 400	≤ 450	≤ 345	> 500	≤ 510	≤ 380	≤ 3.50	≤ 2.35
G	≤ 250	> 450	> 200	> 240	> 240	> 400	> 450	> 345		> 510	> 380	> 3.50	> 2.35
H	> 250												

Source: Various national and EU sources, ING

These differences make it extremely complex to compare the European building stock and significantly reduce transparency, on top of complicating the enforcement of EU-wide improvement goals. For banks, a lack of accurate EPC data can affect their strategy, targets and can tamper with their progress in loan pricing, classification and the credit risk management cycle.

The proposed directive tackles this issue by setting a uniform harmonised scale and providing a template for member states to follow. The template ensures the removal of the methodology discrepancies by requiring countries to express EPCs with a numeric indicator of Primary Energy

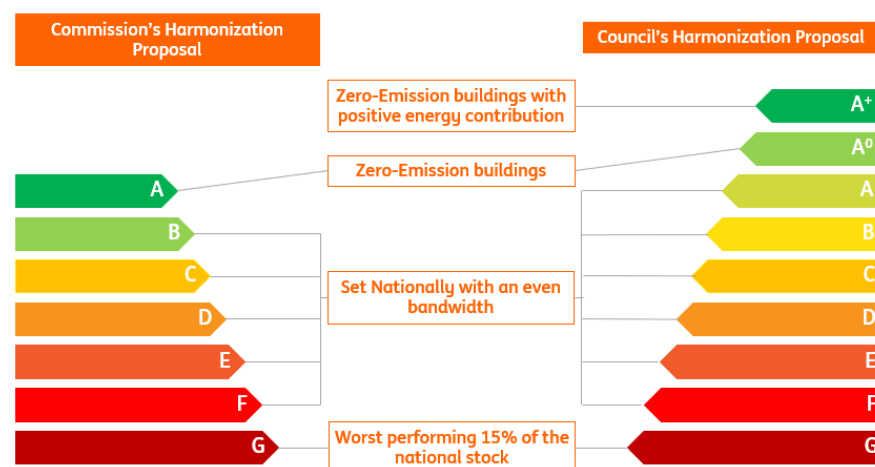
Use in kWh/m²/year. At this stage in the process, the Commission and Council have a slightly different approach to the rescaling. Indeed, the Commission has proposed harmonising the labelling by December 2025 with a scale going from A to G. The new scaling requires member states to label as A only zero-emission buildings with the letter G used for the worst performing 15% of the national stock (at the time of the scale production).

For the Council, countries will have to comply with the new reporting template only by the end of 2026. The harmonised scaling ranges from A0 to G, with the label A0 for zero-emission buildings and the letter G for the 15% worst-performing national stock (at the time of the scale production). It also allows member states to set an extra label A+ for buildings that are not only zero-emission but make a positive net annual contribution to the energy grid from on-site renewables. The figure below highlights these differences.

The remaining classes (from F to A or F to B) can be set by member states individually but must have an even bandwidth distribution of energy performance indicators.

For the Commission, EPC labels will be valid for a maximum of 10 years for labels A to C and only five years for labels below C. This aims at maintaining an updated data set of each country's building stock and an adequate overview of the renovation rate. The Council proposes to unify everything with a 10-years validity period.

Comparison between Commission's and Council's EPC harmonisation proposal



Source: European Commission and Council of the EU, ING

EPC certificates will also have to include an additional indicator, the life-cycle Global Warming Potential (GWP). It quantifies the global warming potential contribution of a building along its whole life cycle (including construction, usage, and destruction emissions). This will become mandatory for new buildings over 2000 m² as of January 2027 and all new buildings as of 2030.

The proposal, from both the Commission and Council, leaves member states some room to exempt certain types of buildings from both minimum energy performance requirements and energy performance certificates. The list includes the following five points:

- Protected buildings (for their environment, architecture, or historical merits)

- Religious buildings (or places of worship)
- Temporary buildings used for two years or less, industrial sites, workshops and non-residential agricultural buildings
- Secondary residential buildings (used for less than four months per year or with an energy consumption of less than 25% of the expected all-year use)
- Stand-alone buildings with a total useful floor area of less than 50 m².

2 Minimum Energy Performance Standards (MEPS)

The second important change to the current EPBD is the introduction of minimum energy performance standards. These are set with the aim of ensuring a higher renovation rate in the sector but also mitigating the negative social impact related to it. It should instigate a gradual phase-out of the worst-performing buildings with standards set at the EU level, focusing on renovating buildings with the highest potential for decarbonisation, energy poverty alienation and social benefits.

The EU-wide energy performance standards are based on harmonised Energy Performance Certificates (EPC) that will be used to gradually force member states to renovate the worst-performing buildings of their national stock. The EU differentiates between public bodies owned, non-residential and residential buildings and between new and existing ones.

The approach of the Commission and Council, however, differs here. Indeed, the Commission's proposal has a strict approach focusing on removing the worst EPC labels while the Council proposed an approach solely based on increasing the national average EPC level.

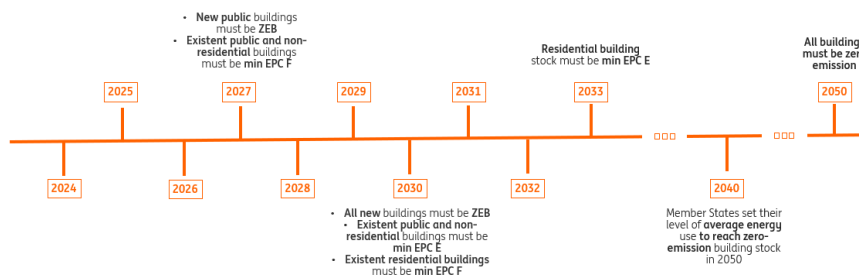
Commission's proposal

For new public buildings, the Commission's proposal requires them to be zero-emission by January 2027. All new buildings should respect this criterion as of January 2030.

For existing buildings, the proposal requires public buildings to reach at least EPC label F in January 2027 and label E in January 2030. The same deadlines and requirements apply to non-residential buildings.

However, residential buildings are required to be at least EPC class F by January 2030 and class E in 2033, as the timeline below highlights.

Commission's MEPS enforcement timeline



Source: European Commission, ING

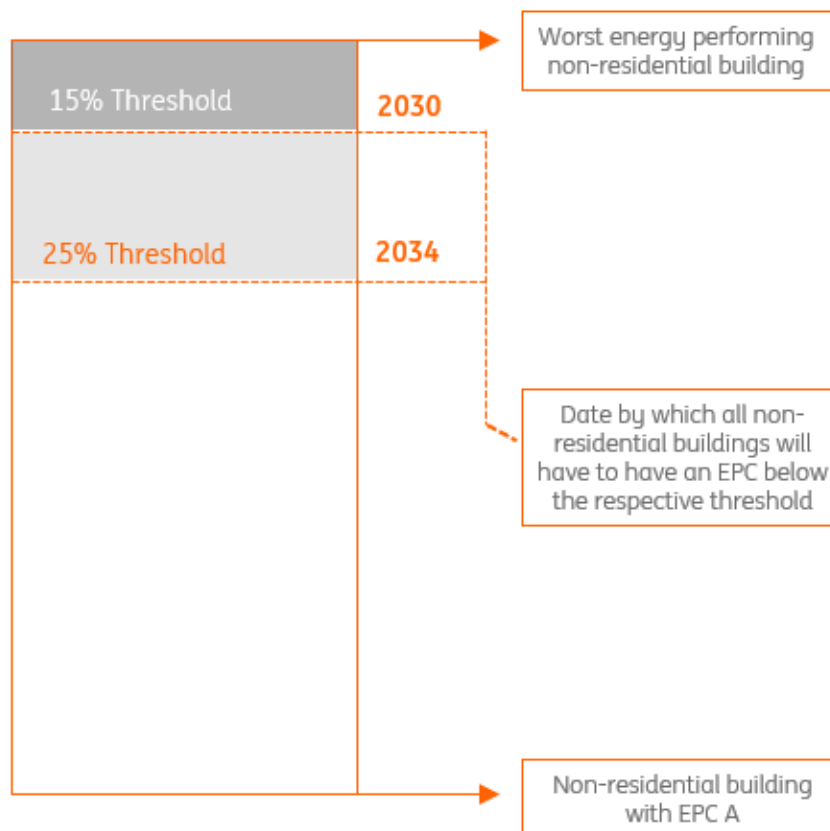
Council's proposal

The Council proposal leaves more space for national discrepancies by focusing on average national EPC levels instead of setting strict minimum EPCs. It requires new public buildings to be zero-emission by 2028 and for all new buildings to be so by 2030. In the meantime, it also imposes new buildings to be at least NZEB.

For residential buildings, member states are also required to set their country-specific Minimum Energy Performance Standards. However, the Council sets two control points, the average EPC label D should be reached by 2033 and by 2040 a national plan to reach zero-emission in 2050 should be in place. As these EU-wide deadlines should ensure that member states take concrete action to transform their worst-performing stock, they will also have to increase the average national performance. Member states are thus required to develop a national trajectory to slowly increase the average stock energy efficiency.

For non-residential buildings, the Council wants member states to set their own minimum energy performance standards. In other words, the maximum amount of energy that buildings could use per m² annually. To enforce this, they are required to set two thresholds. The first one should be set below the primary energy use of the 15% worst-performing buildings in the national stock. All buildings are then expected to be below that threshold by 2030. The second threshold should be set below the 25% worst-performing buildings with the goal that the national stock is below that threshold by 2034.

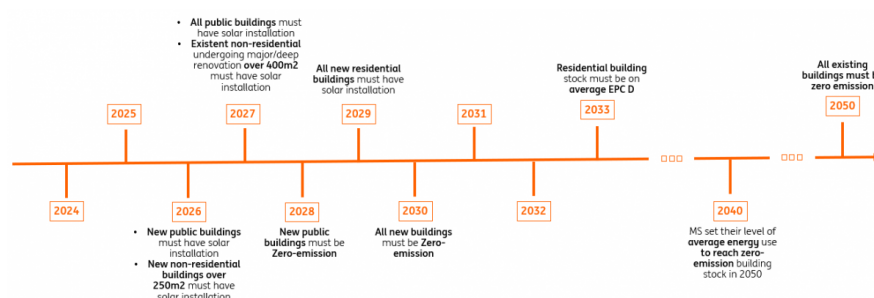
Council's proposal for non-residential buildings



Source: Council of the EU, ING

The Council also added, as part of the article on minimum energy performance standards, a solar energy requirement. Indeed, the new amendment states that member states must deploy suitable solar energy installations on their building stock. Again, by looking separately at public, non-residential and residential buildings, the revised EPBD states that all new public and non-residential buildings over 250 m² must have solar panels by December 2026 and all existing ones undergo a major transformation of over 400m² by December 2027. This will become required for all new residential buildings by the end of 2029 as shown in the timeline below.

Council of the EU MEPS enforcement timeline



Source: Council of the EU, ING

3 Creation of National Data Bases

The proposed EPBD recast requires member states to develop and sustain publicly accessible National Data Bases to store EPC labels (and full certificates). Currently, discrepancies in the storage and accessibility of EPC databases exist. The table below gives an overview of the current state of data availability for the major member states.

National differences in EPC data bases

Country	Type of register	Public access	Limited access	No access
AT	Regional		X	
BE	Regional		X	
BU	Central			X
CY	Central			X
CZ	Central			X
DK	Central	X		
EE	Central	X		
ES	Regional		Depends on region	
FI	Central			X
FR	Central		X	
EL	Central			X
IT	Regional		Depends on region	
LT	Central	X		
NL	Central	X		
PL	Central			X
PT	Central	X		
SK	Central	X		
SI	Central		X	
SW	Central	X		

Source: European Commission, ING

The main difference lies in the reporting level varying between central and regional. A majority of countries offer only limited to no access to the EPC database. This will have to change with the

enforcement of the EPBD recast with the hope of reinforcing transparency by allowing owners, tenants and financial institutions to have updated information on the building stock or investment portfolio. Once the databases are implemented, member states will also be requested to share them with the Building Stock Observatory following a common template (adopted by the Commission by June 2024). The directive review, however, doesn't mention the use of the Single Access Point that is currently being implemented by the European Union.

4 National building renovation plans

The current directive requires member states to develop a long-term renovation strategy. The recast of the EPBD replaces these strategies with National Buildings Renovation Plans. These must, on the one hand, have a stronger focus on financing the renovation and on the other hand, ensure the availability of skilled workers to proceed with the sustainable renovations. Thus, member states are expected to share an outline of financial measures, investment needs and administrative resources to reach their national renovation milestones. The roadmap must be updated every five years and include targets for the years 2030, 2040 and 2050.

National plans are also expected to actively promote financial mechanisms and incentives and include financial institutions. As one of the most critical dilemmas of the building renovation concerns social justice, financial institutions are expected to play a central role not only to incentivise renovation through energy-efficient advantageous mortgages but also reduce the risk of investment and include vulnerable households. That also holds for governmental incentives to prioritise and target vulnerable households (affected by energy poverty or social housing) and prevent evictions related to renovation costs. For both government and financial actors, the directive review, however, doesn't specify exact incentives to enforce.

Energy poverty is defined in the Energy Efficiency Directive recast [recast EED art 2 (69)] as a household's lack of access to essential energy services that underpin a decent standard of living and health, including adequate warmth, cooling, lighting, and energy to power appliances, in the relevant national context, existing social policy and other relevant policies.

The creation of one-stop shops (OSS) is one of the mandatory indicators included in the template of the national building renovation plan. These suppliers provide "integrated solutions" as services and assistance in multiple steps of an energy renovation. Renovating a home requires technical, engineering, administrative and legal knowledge and depends on collaboration between several specialised providers. It can become an overly challenging project for homeowners, hence creating an additional non-financial barrier. These solutions can therefore help with the facilitation and/or coordination of renovation work. A report from the European Commission (2021) finds that these OSS solutions could incentivise between 5% and 6% of the renovation volume desired by the renovation wave in 2030.

To facilitate renovations, the EPBD recast also introduces renovation passports; documents providing tailored roadmaps for the renovation of specific buildings in several steps to significantly improve energy performance. The Commission proposed that by December 2024, member states introduce an implementation scheme for these renovation passports based on a common framework. The Council's proposal wants to do so by December 2025 and allow it to be used by

building owners on a voluntary basis. In both cases, it would give the opportunity to clearly map, through an expert certification, what can be done to improve the energy performance of a specific building.

5 Financial initiatives

As necessary as the directive review is for the EU to respect its international commitments, it raises questions of financial feasibility. Indeed, the estimated investment required to bring buildings to an adequate energy efficiency level varies between countries but is in the range of 15,000 to 100,000 euros for the worst-performing homes. The EPBD recast addresses this issue with an amendment requiring member states to put in place financial incentives to meet the 2050 zero-emission target but also to remove non-economic barriers to renovation. That can include removing the unanimity requirement for co-ownership structures, allowing them to be recipients of financial support or as discussed before, the creation of OSS solutions to facilitate access to renovation information and coordination. However, it will remain up to member states to choose which means to use to achieve their national goals.

The review also highlights that member states should adopt measures to make sure financial institutions offer energy-efficient lending products in a wide and non-discriminatory manner. To support investment, it also states a few examples of funding and financial tools such as:

- Energy efficiency loans and mortgages for building renovation
- Energy performance contracting
- Fiscal incentives
- On-tax scheme
- On-bill scheme
- Guarantee funds
- Funds targeting deep renovation

All these examples should provide incentives to trigger deep renovations or staged deep renovations for a high number of buildings with the goal of reducing at least 30% of primary energy use.

The EU makes a distinction between deep and major renovations.

Deep renovation: Before January 2030, a deep renovation is defined as a renovation which transforms a building into a NZEB. After January 2030, this is defined as a renovation which transforms a building into a ZEB.

Major renovation: Defines a renovation of a building where;

1. The total renovation cost is 25% higher than the building's value.
2. More than 25% of the surface of the building undergoes renovation.

Member states may choose to apply (1) or (2).

In Summary

Overall, these five major changes to the EPBD aim at making the ambitious reduction of GHG emissions by 55% by 2030 a reality. It focuses on triggering concrete action from member states to invest in the upgrade of their building stock. While the negotiations are still ongoing, it's not yet possible to fully describe what will be enforced at the national level. However, with the view of both the Commission and Council on the topic, we can already see the willingness to set concrete steps to proceed with this renovation wave. We can also highlight the aim to consider national variations in the current state of building stock. One question however remains, what will be the effect of the EPBD recast on both society and financial institutions? This is discussed in [the following article](#).

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Energy Performance of Buildings Directive review: how will banks be affected?

The current EPBD recast negotiations highlight five major changes to trigger higher energy renovation rates in the EU. As the effect on society will vary per member state, we can already foresee some impact on banks, such as increasing valuation challenges and the lack of available EPC data



Renovation of an old home with energy efficient insulation and windows

Introduction

In order to reach its target to reduce its Green House Gas (GHG) emissions by at least 55% by 2030, the EU designed the fit for 55 package. This initiative bundles a set of 12 proposals to revise European legislation. The review of the Energy Performance of Buildings Directive is an important part of it as buildings account for 40% of the energy consumed in the Union. Making the European building stock energy efficient and climate change resilient is therefore crucial to reach these goals. The Directive recast is still being negotiated however, we can expect five major changes to the current EPBD. From these, we can foresee effects on both society and financial institutions as

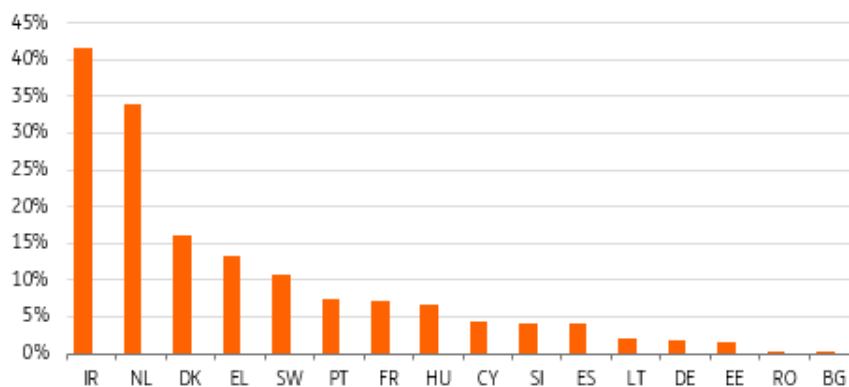
they will have to play a major role to finance these upgrades.

The housing market differs a lot between member states, hence, the impact of the EPBD recast will also vary depending on the country. It's important to consider national specificities when addressing the potential effect of the Directive. Before looking into the potential effect on banks, six important variables must be considered to estimate the impact of the Directive.

1 Data availability

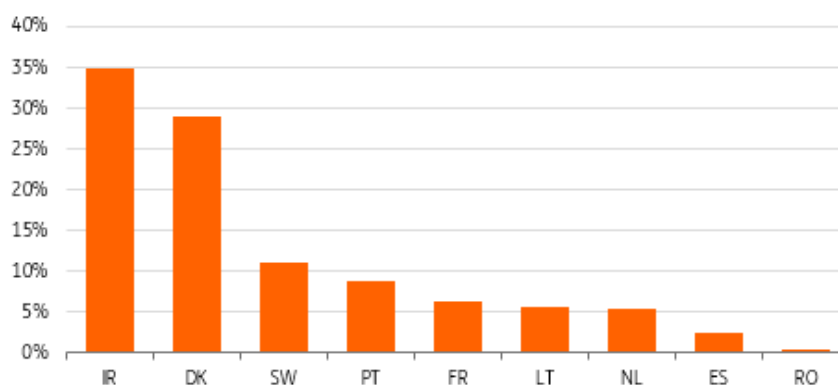
Making the transition towards zero-emission buildings (ZEB) includes many difficulties. Besides the enforcement challenges, national discrepancies exist in the number of Energy Performance Certificates (EPC) already available. Governments will need to generalise the use of EPC labels on top of complying with the new harmonised methodology and scale. As some states have already largely enforced the use of EPC in the field, the EU highlights the great lack of data in others. The graph below displays the energy performance data available per country. For residential buildings, Ireland and The Netherlands are good students with 41% and 34% of their respective national building stock with an EPC label. However, these shares date from 2015 and only show 16 of the 27 member states, and even if we can hope for a significant improvement over the last years, a large part of the EU building stock doesn't have a formal energy performance certificate or label.

Share of residential buildings with an EPC (2015)



Source: European Commission, ING

Share of non-residential buildings with an EPC (2015)



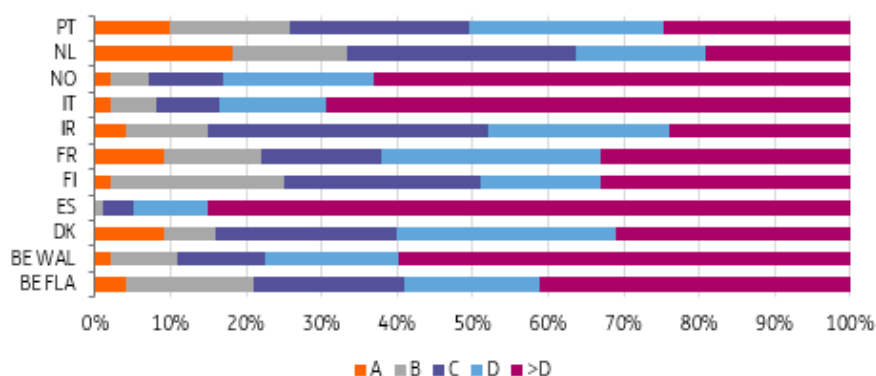
Source: European Commission, ING

The picture is even worse when looking at the non-residential buildings as the EU has less information on its member states labelling percentage. The graph above shows this issue well with only nine countries officially disclosing the share of non-residential buildings with an EPC label. Member states will have to invest in the enforcement of EPC requirements if they want to efficiently impose the new directive and set an adequate National Building Renovation Plan. Without sufficient and qualitative data, governments risk underestimating the necessary investment to renovate the national building stock and the need for financial incentives to do so. For financial institutions, the lack of adequate data could induce a misinterpretation of the portfolio quality and lower the Green Asset Ratio.

2 State of the current building stock

From the existing data and estimates, the general distribution of EPC also varies between countries. The graph below shows the EPC distribution for major EU countries. However, as there is currently no harmonised way to attribute EPC scores, these are the following national scales and methodologies. Despite not allowing a good cross-country comparison, it does give a first idea of the general national distribution.

National EPC labels distributions



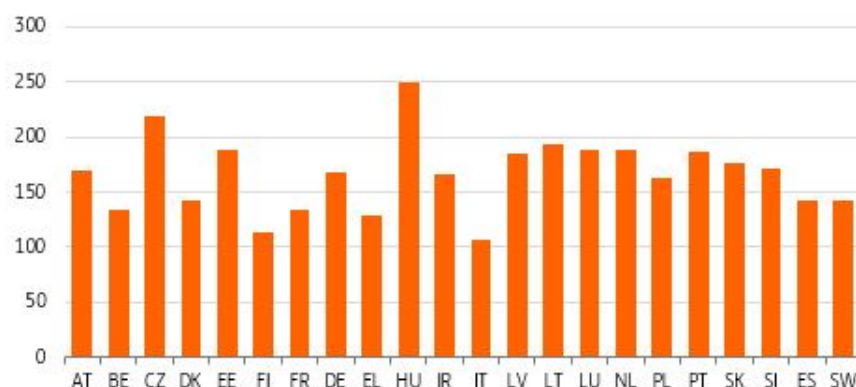
Source: X-Tendo (March 2020) and SBAB green bond impact report, ING

One of the main outcomes from the above graph is the significant share, for most countries, of D and below grades. Hence, a large part of every national building stock will have to go through energy performance renovation to comply with the regulation. A study from Tado looked into the home temperature loss after five hours and found that on average countries like Belgium and France have a significant loss of 2.9 and 2.5 degrees, respectively. However, Norway shows an average loss of only 0.9 degrees. Comparing these results to the above graph, we can highlight the significant differences in EPC labelling as France has better EPC labels than Norway but worse energy saving. The Netherlands shows the highest rate of EPC label A. However, this is also strongly related to the national labelling scale which will change with the EPBD-related harmonisation of EPC scales. Therefore, for the Netherlands, most houses currently labelled A are expected to become labelled D under the new scaling.

3 Housing prices

In most European countries, the nominal house price has strongly increased since 2015 as the below graph shows.

Nominal house price change*



Source: European Commission, ING

* With 2015 nominal prices as baseline index at 100

As these price increases are mostly related to general market trends, we can already see an EPC premium arise on houses with a good label in some countries. For example, a study from the National Bank of Belgium and KU Leuven looked at the price differences between houses with high and lower energy performances. By comparing prices to a house with an EPC score of 350kWh/m² between the third quarter of 2020 and the second quarter of 2021, their calculations highlighted the following results:

Energy efficiency impact on selling price in Belgium

EPC value in kWh/m ²	House price increase (%)
50	17
150	12
250	6
350	0
450	-4
550	-7
650	-8
750	-9
850	-11
950	-11
> 1,050	-13

Source: NBB and KU Leuven, ING

This study clearly highlights the premium on energy-efficient houses with a net loss of value for the ones that are not energy efficient. This type of effect is clear in countries with a rather large enforcement of the EPC requirements. However, in countries like Spain, there is currently no such trend of energy efficiency premium, mostly due to non-existent or not disclosed EPC labels during the sale transaction. With the label and methodology harmonisation on top of wider and more transparent disclosures advocated by the EPBD, we can expect that other markets will display

similar patterns. As shown previously, only very few member states already have public databases. As such, improving transparency will probably increasingly affect the market and valuation of buildings. Therefore, it constitutes a risk for financial institutions through the valuation of the collateral value of the mortgage portfolios in countries lacking EPC data. We can also expect the effect to differ per country, notably depending on the climate differences (as heating costs are lower in Mediterranean countries).

4 Renovation costs

The renovation costs of inefficient buildings are estimated to vary between €15,000 and €100,000 (VEKA & national sources). The required investments depend on the country, state and type of building. For instance, research from VEKA highlights that for the Belgian market, the cost of renovating a detached house can be up to 1.3 times more expensive than a terraced house. A higher share of apartment ownership is also a hindering factor for renovation as it may rise co-ownership decision barriers like unanimity vote on important building renovations.

This adds to the already existing national variations. For Germany and The Netherlands, the average renovation costs lie between €15,000 and €30,000. They are higher in Belgium at an average of €50,000.

5 Ownership profile

The required investment is only one of the variables that will determine the feasibility of energy renovation. Another major point to look at is the national ownership profile. The Directive will first and most importantly affect the worst-performing regional stock. We can expect that countries with a high rate of low-income homeowners will face greater difficulties to fund the necessary renovations. We can already highlight some significant differences between major European markets. For instance, Belgium shows a high rate of low-income ownership with 44% of the lower-income population owning property. This is not the case for other markets such as Germany or the Netherlands which show, on average, low-income homeownership with respectively 20% and 15%. Additionally, these countries show lower homeownership rates in general, implying a larger rental market. This can have consequences on the tenant as landlords may be willing to make them bare the cost of renovations. The graph below shows the differences in homeownership rates.

National homeownership rates by type of homeowners (2015 or latest available)



Source: OECD, ING

Access to liquidity

Overall, we can expect that countries with high renovation costs and an important share of low-income homeownership, like Belgium, will face greater difficulties to trigger energy renovation. It will also highly affect social justice in cases where the worst-performing buildings are owned by the most vulnerable population as these bear the highest refurbishing costs and are expected to be renovated sooner. However, it's also for these low EPC buildings that we will see a significant advantage to renovate, especially since the strong increase in energy prices. Reducing the energy need for a household will greatly limit spending. Access to liquidity is hence crucial to reach both the 2050 zero-emission target but also to make the transition just.

Research has already shown that in Belgium, 51% of households do not have sufficient savings to meet the energy renovation financing costs. Taking one-off debt investment into account, 40% of the population will still be unable to finance such an upgrade (Johan Albrecht, De financiële barriere voor klimaat). A similar observation can be made for The Netherlands where at least two million households lack the financial means to renovate their house (NIBUD, 2021).

We can also estimate the difficulties households will face when requesting financial means to renovate by looking at the national average household debt. The OECD data shows that the household debt in percentage of the net disposable income has steadily increased over the last five years to reach exceptionally high rates in countries such as Denmark and The Netherlands, as shown in the graph below.

National household debt in percentage of net disposable income (2021)



Source: OECD, ING

High household debt implies that it will be significantly more difficult for homeowners to fund important investments and to successfully request additional loans. National specificities such as a high level of mandatory saving for pensions can negatively affect a household's disposable income and thus impact the debt percentage.

Impact on financial institutions

These points will have a significant impact on society, but we can question what that means for financial institutions. Firstly, the change in the EPC scale will affect banks that have already started

to collect EPC labels nationally for disclosure requirements showing their compliance with the EU Taxonomy. They will need to adapt to the new methodology and scale but considering this is a one-time investment, the cost should remain rather low. On top of this, the harmonisation of EPC scales will facilitate data comparability across countries. This positive impact will be especially important for international banks as it will support sustainability disclosures and ease cross-national portfolio comparison. However, it may negatively impact the green asset ratio of some banks as EPC label A will become strictly ZEB. This will solely be the case for countries where, for buildings built before the end of 2020, the current EPC label A definition covers a wider range of properties than the 15% best-in-class criterion on energy performance.

The implementation of minimum energy performance standards raises concerns about the valuation of the current portfolio. Indeed, for new loans, banks will be able to request an EPC and calculate possible renovation costs or simply use the renovation passport when available. However, for existent mortgages, even with an EPC, it will remain difficult to assess the necessary investment for it to reach the required minimum energy performance. As most countries have a rather low percentage of their building stock with an EPC, it will be a challenge for banks to set a realistic valuation. They will thus have to rely on proxies and possibly external providers to estimate the energy performance and renovation costs.

The EPBD review also allows member states to exclude certain buildings from EPC and minimum energy performance requirements. As this makes sense to protect their integrity it may provoke a large devaluation of historic buildings with the apparition of energy efficiency premiums on the market. Hence, depending on a bank's portfolio composition, it could imply higher stranded asset risk for banks with a large share of EPBD-excluded buildings in their book.

Furthermore, banks are also expected to tackle the physical climate risk on their portfolio such as floodings, foundation rotting or wildlife fires (to name a few). As these risks are expected to intensify in the coming decade, financial institutions will have to simultaneously address the transition to a more sustainable portfolio while making it climate change resilient.

The Directive will open a new market of loans and renovation products for financial institutions

On the bright side, this Directive will open a new market of loans and renovation products. Knowing the future regulatory requirements, financial institutions can estimate and prepare for the upcoming renovation wave. The expected demand for energy upgrades will increase, thus is an opportunity for banks to start designing new products to adequately welcome this demand. It is also crucial for banks to take this opportunity to propose products allowing all homeowners to access the necessary financial means and take a concrete role in making this transition a just one.

Furthermore, as the regulation is fairly complex, financial institutions will also have an important informational role to play before and during the loan origination process. Even if the Directive review doesn't state direct penalties for infringements, not respecting or playing an active role in the enforcement of the new requirements can have a serious reputational effect. And, for institutions not meeting their stated sustainability targets, the European Central Bank recently expressed that they could face litigation risk. Hence, even if not directly affecting banks, the EPBD

review could trigger tighter rules for financial institutions especially concerning the mapping of their transition plan as it implements more transparency.

In summary

The extent to which the review of the EPBD will affect financial institutions remains difficult to clearly assess. However, the implementation of strict minimum energy performance requirements is expected to trigger a higher renovation rate and we can foresee witnessing a gradual implementation of a premium to energy-efficient buildings on the housing market. For homeowners, the directive recast is especially challenging in two ways, the first one being the complexity of the policy. Indeed, a lot of information is required to understand and estimate the renovation and regulatory requirements. The second one consists of the liquidity needed to comply with the new policy. Financial institutions should play a role in both of these aspects, by bundling adequate information and innovative lending products to trigger renovations.

As there is currently still a lack of information on the market including EPC labels and renovation cost estimations, countries will need to invest in the matter to adequately organise their national building renovation plans and make sure the transition is a just one.

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