

**Energy Efficient Mortgages
Pilot Scheme
Implementation &
Product Framework**



**Energy
Efficient
Mortgages
Initiative**





Energy Efficient Mortgages Initiative

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Introduction

Interest in and discussion around the financing of energy efficiency has increased in recent years, driven largely by the successful conclusion of COP21 and the ambitious efforts being undertaken at EU level with regard to energy savings. The European Commission and other actors in the wider international political environment are now increasingly focussed on encouraging the financial sector to take stronger action on climate-change and play a key role in tackling the challenges arising from it. This focus was most recently evidenced in the EU with the publication of the European Commission's [Action Plan on Financing Sustainable Growth](#) in March 2018, which sets out the EU's new sustainable finance strategy.

The [Energy Efficient Mortgages \(EEM\) Initiative](#) (which brings together the EU funded [EeMAP](#) and [EeDaPP](#) projects) seeks to equip stakeholders in the mortgage market with tools to meet this challenge, through the development of an 'energy efficient mortgage' product. To this end, an Energy Efficient Mortgages Framework (the 'Framework'), consisting of three set of guidelines (*further details given below*) was developed to underpin the pan-European Energy Efficiency Mortgage Pilot Scheme. The final Framework is the result of extensive research and market consultation with finance, building and valuation experts across Europe.

The **Energy Efficient Mortgages Initiative** aims to create a pan-EU framework for energy efficient mortgages. These mortgages incentivise borrowers to improve the energy efficiency of their buildings or acquire highly energy-efficient properties. The incentives the energy efficient mortgage will offer borrowers (e.g. reduced interest rates and/or increased loan amount) aim to reflect the reduced credit risk of these loans. Lower risks also deliver a strong incentive for banks to enter the market and play a central role in driving climate action across Europe's building sector. This mortgage financing mechanism is intended to be supported by a data protocol and portal to collect and access large-scale empirical evidence relating to energy efficient mortgage assets allowing a comprehensive analysis of de-risking energy efficiency features.



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Key Pilot Scheme Objectives

The **key objectives** are:

- To test this Framework in operation in order to improve and strengthen it
- To gather data on the performance of energy efficient mortgages
- To build and strengthen the value-chain of actors delivering energy efficient mortgages in key markets

A Pilot Scheme Roadmap, describing the Pilot Scheme, its scope and the steps that lending institutions or other actors interested in participating in the Pilot Scheme should undertake, is also available on the Energy Efficient Mortgages Initiative website www.energyefficientmortgages.eu

For further information on the Pilot Scheme please contact:

- info@hypo.org – For financial institutions
- europe@worldgbc.org – For building sector companies and experts
- ricseurope@rics.org – For valuation experts

Key Information about the Framework

The **Framework** is:

- **Split into three sections**
 1. Implementation Principles for Lending Institutions (page 6)
 2. Building Performance Assessment Criteria (page 12)
 3. Valuation Guidance and Energy Efficiency Checklist (page 18)

- **Intended to be simple and flexible in scope and application**

The Framework adopts a principle-based so that lending institutions may apply them in a way that is appropriate to their internal practices, national market and legislative context. The Framework and underlying guidelines are intended to be valid for new and existing residential (single family & multi-family) and commercial properties.



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- **A work in progress**

The Framework is the result of comprehensive market consultation and national roundtables. The Pilot Scheme will test the Framework in an operational environment and feedback received from participants will be used to adjust the Framework over time as appropriate to respond to market needs. To this end, a governance structure and an 'Advisory Council', consisting of representatives from European and international institutions, have been established.

Further Resources

To understand the development of these guidelines, you may wish to review the following reports which have been published in the context of the Energy Efficient Mortgage Initiative:

- (i) [White Paper: Creating an Energy Efficient Mortgage for Europe](#)
- (ii) [Review of the State of Play of Green Finance](#)
- (iii) [Review of the State of Play on Building Performance Indicators that Impact Mortgage Credit Risk](#)
- (iv) [Review of the State of Play on Mortgage Lending Valuation and the Impact of Energy Efficiency Value](#)
- (v) [Review of the Impact of Energy Efficiency on the Probability of Default](#)
- (vi) [National Building Assessment Briefings for a number of key EU markets](#)
- (vii) [Consumer Insights Research](#)



Energy Efficient Mortgages Initiative

1. Implementation Principles for Lending Institutions

The following 12 principles¹ provide the overarching structure of the Energy Efficient Mortgage Framework. Banks are invited to implement the Framework in conjunction with the Building Performance Assessment Criteria (Section 2) and the Valuation Guidance and Energy Efficiency Checklist (Section 3). The principles are intended to provide guidance and facilitate the successful implementation of the Energy Efficient Mortgage concept within lending institutions' existing internal procedures, whilst leaving room for specific national market characteristics and legal requirements to be accommodated.

Lending institutions which start to originate Energy Efficient Mortgage products in due course as part of the Pilot Scheme will be invited to self-certify that their Energy Efficient Mortgage (EEM) products are compliant with the three sections of the Framework.

- **Principle 1 EEM Product:** The EEM product is intended to finance the purchase/construction of an energy efficient property or the energy efficient renovation of an existing property.
- **Principle 2 EEM Financing Mechanism:** It is proposed that the EEM product provide access for consumers to favourable financing conditions (see Section 1.2 for a non-exhaustive list of examples) reflecting the positive impact of energy efficiency on borrower and property risk profiles², provided that significant improvement in the energy performance of the mortgaged property is demonstrated, or superior energy performance is demonstrated against comparable properties in the market (see Section 2 for building performance criteria).
- **Principle 3 Ongoing Investment:** It is furthermore proposed that the EEM product links the favourable conditions described in Section 1.2 as relevant to continued improvement of the property, such that the borrower is incentivised to invest in the gradual improvement of the energy performance of the property during the lifetime of the mortgage.

¹ Whilst the majority of the principles are valid for both energy efficient renovation and the purchase of already energy efficient buildings, Principles 1, 2, 3, 4,5 and 7 are specifically relevant in the case of energy efficient renovation.

² It is this positive impact in respect to the data correlation between energy efficiency and risk that would ultimately justify a realignment of capital requirements and allow lending institutions to extend favourable conditions to the customer.



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- **Principle 4 Technical Experts:** Lending institutions are encouraged to receive and retain proof - from the borrower or designated third party - that an appropriately qualified or accredited energy efficiency expert (see Section 2) has been involved in the design of the property or in the planning of the renovation works. This proof should ideally also indicate that an energy efficiency expert has provided advice to the borrower and has delivered an updated Energy Performance Certificate (EPC) for the energy performance of the property.
- **Principle 5 SME/Contractor:** Lending institutions are encouraged to receive and retain proof - from the borrower or a designated third party - that all works relevant to energy efficiency performance have been undertaken and guaranteed by a suitably qualified contractor(see Section 2).
- **Principle 6 Access to Additional/Complementary Sources of Finance:** It is recommended that the lending institution or their designated third-party also advise borrowers of and/or make easily available (e.g. through the website of the lending institution) information about potential European/national/regional/local public subsidies and fiscal benefit schemes. This is intended to further assist with the financing of energy performance improvement.
- **Principle 7 Valuation Requirements:** Lending institutions are encouraged to instruct valuers (either internal or external to the lending institution) to collect, log and assess any energy efficient features of the property when conducting property valuations for lending purposes. The valuer ought to be instructed by the lending institution according to the Valuation Guidance & Energy Efficiency Checklist in Section 3. Depending on the subject of the financing (renovation, acquisition, construction), it is recommended that both pre-and-post valuation of the impact of the energy performance improvement on the property value i is undertaken in line with lending institutions' typical practice.
- **Principle 8 Customer Relationship Management:** As part of their customer relationship management, lending institutions are encouraged to provide, where appropriate, information and explanations which: (i) describe to borrowers how their mortgage conditions could improve if they took up the EEM and constructed/purchased an energy efficient property (where a comparable investment is available) or improved the performance of an existing property (clarified in Section 1.2) and (ii) inform borrowers about additional products which the lending institution may offer to further support building energy efficiency.



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- **Principle 9 Optimising Relationship with Other Relevant Actors:** Lending institutions are invited to consider the possibility of working together with relevant actors specialised in energy efficiency, such as utility providers, energy agencies, Green Building Councils, one-stop-shop services, etc. in the deployment of the EEM to increase the level of support and service available to the borrower.
- **Principle 10 IT-Systems:** Lending institutions which originate mortgages according to these guidelines (Sections 1, 2 and 3) are encouraged to tag these as EEMs within their IT-systems. Lending institutions are invited to collect information, based on a future standardised IT protocol³ and aligned with the recommendations included in EPCs and, when available, with a building passport approach (see Section 2 for more on building passports), to optimise subsequent use of this information⁴. Data collection should be conducted in line with data protection regulation, on the retail, prudential (risk management) and funding (investor due diligence) sides of the mortgage lending business.
- **Principle 11 Data Recording:** Lending institutions are invited to analyse the results of data monitoring and reporting for EEMs for risk assessment purposes, particularly in relation to probability of default (PD) and loss given default (LGD), and to share these results with the Energy Efficient Mortgages Initiative Coordinator, the EMF-ECBC, for the purposes of the analysis of the impact of energy efficiency on risk.
- **Principle 12 Mortgage Funding:** If a mortgage is used as a cover pool asset, a lending institution's funding department is encouraged to tag the asset as an EEM for the purpose of energy efficient funding.

³ This is currently being developed through the Energy Efficiency Data Portal & Protocol (EeDaPP) Initiative.

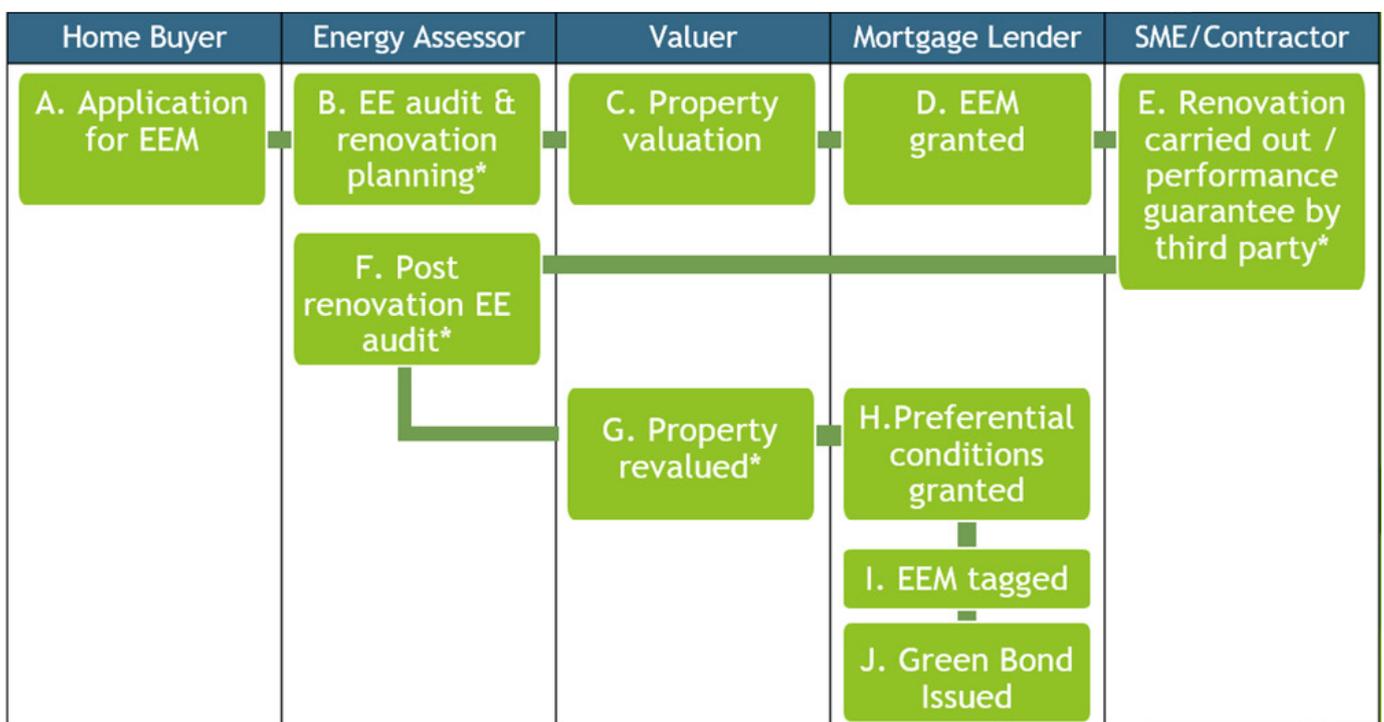
⁴ Collection of this data will facilitate a link and deliver traceability of the property and its energy efficient features, the related loan characteristics and performance and the borrower's information.



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1.1. The Energy Efficient Mortgage Process

The EEM concept described above can be translated into an indicative flowchart, with the aim of illustrating the potential process of origination. Given the level of heterogeneity across markets and business models, the flowchart is designed to provide the necessary scope for lending institutions to adapt the process to their internal practices and national market and legislative context.



Note: *B (renovation planning), E, F & G are only relevant in the case of renovation. An audit could involve the issuing of a new Energy Performance Certificate for a residential property, although more comprehensive audits might be considered for commercial properties.



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1.2. Financing Conditions and Mechanisms

The following is a non-exhaustive list of examples of favourable financing conditions & potential underlying mechanisms - according to building categories.

1. Preferential Interest Rates: According to the positive impact of energy efficiency on probability of default (PD) and loss given default (LGD), lending institutions could offer preferential interest rates to mortgage borrowers on the following basis:

- **New & Nearly Zero-Energy Buildings**

Borrowers of mortgage finance for the construction or purchase of new or already renovated buildings which comply with the relevant criteria in Section 2 of these guidelines, could qualify for access to preferential interest rates.

- **Renovation of Existing Buildings**

Borrowers of mortgage finance for the purpose of renovating an existing building could also benefit from access to a preferential interest rate provided they comply with the relevant criteria in Section 2 of these guidelines. These preferential rates could be granted in the following way:

- according to the improvement in the energy performance of the mortgaged property, and
- after the renovations have been undertaken and the energy savings certified.

- The calculation of the discount in the interest rate would be decided internally within lending institutions.



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Theoretical Mechanism for Granting of Preferential Interest Rate:

The discount on the interest rate could be determined on the basis of a progressive scale, with the aim of incentivising more significant improvements in properties at the lower end of the energy rating. A borrower would in this case receive a larger percentage of the discount the further they move their property up in terms of energy rating. In this scenario, the maximum discount value of 100% will be achieved by those borrowers who improve their energy rating to the best category.

In this way, borrowers will be incentivised to improve the energy performance of their property enough to mitigate the potential risk of “brown discounting” and achieve progressive improvements of performance levels, with a view to achieving the gradual and ongoing movement of the property towards the top end of the market. In light of different national energy rating categories, this progressive scale would need to be adjusted and refined over time to take into account national (or sub-national) benchmarks and averages for energy efficient rating levels.

This example is purely for illustrative purposes.

2. **Additional Funds:** In recognition of the potential enhanced property value resulting from energy efficient renovation:

- For an existing property to be renovated, at the time of loan origination, the lending institution could factor in additional funds due to the potential and expected increased value of the property determined by the loan to value following the renovation. Hence, the risk for the lending institution remains the same⁵.
- This mechanism would:
 - allow any expected increase in value due to renovation to be factored in at origination, and
 - enable the borrower to carry out renovation at the time of the purchase of the property.

3. **Higher LTV:** In recognition of the potential enhanced property value resulting from energy efficient renovation for example, lending institutions could lend at a higher loan-to-value.

⁵ The possibility to take account of an increase in the value is suggested in the recently published Basel III reforms to the Standardised Approach for Credit Risk, which, at point 62 on page 20, states that “modifications made to the property that unequivocally increase its value could also be considered in the LTV”.



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2. Building Performance Assessment Criteria

This section of the document sets out the proposed building performance assessment criteria to determine eligibility for an Energy Efficient Mortgage (EEM) during the Pilot Scheme of the Energy Efficient Mortgages Initiative. The criteria propose minimum requirements for the EEM Pilot Scheme and should not preclude the application of more rigorous standards in those markets where lending institutions and other market actors deem this to be appropriate.

They are intended to be simple and flexible and lending institutions testing the EEM Framework may apply them in a way that is appropriate for a given market. The Consortia behind the Energy Efficient Mortgages Initiative will establish national partner networks and lending institutions are advised to seek their guidance on appropriate local application of the criteria.

The criteria are listed in Section 2.1 and Section 2.2 then provides definitions of some of the key terms used. Section 2.3 explains the future ambition for the Building Performance Assessment Criteria, outlining aspects of energy and environmental performance assessment of buildings which will need to be reviewed and considered for incorporation into the EEM Framework as the market matures. As indicated above, the consortia behind the Energy Efficient Mortgages Initiative have established a governance structure to review and update the guidelines over time as appropriate to respond to the market.

2.1. Pilot Scheme EEM Criteria

The following three criteria are proposed as guidelines to determine eligibility for an EEM during the Pilot Scheme.

Text highlighted with **bold, italic typeface** indicates that a technical definition is provided in the Section 2.2 General [Definitions](#), which follows.

Criterion 1 - Energy Performance:

For a building to qualify for an EEM, its ***energy performance*** should be either:



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- a. compliant with the relevant national definition of nearly zero energy buildings (NZEBs);

or

- b. 20% better than required by current applicable national building regulations (for example, where NZEB definitions have not been finalised);

or

- c. improved by 30% or more in the case of renovations.

The lending institution may offer a scale of improved loan conditions for performance levels in new or renovated buildings that exceed these criteria. This would recognise and reward best practice, such as exceeding NZEB in new buildings, or achieving greater levels of improvement for renovations, for example if 40, 50 or 60% improvement is achieved.

Criterion 2 – Ongoing performance monitoring:

The borrower, or the borrower's nominated third party:

- a. shall in all instances provide a revised Energy Performance Certificate (EPC) after a renovation.

and

- b. for new-builds and renovations, should also report the building's **measured energy consumption**, according to each energy carrier (e.g. electricity or fuel), at least once per year.

Pilot Scheme lending institutions are strongly advised to apply Criterion 2b unless it is found to be technically or financially unfeasible. Such data is a pre-requisite to the sector's efforts to establish a robust evidence base on the impact of energy performance on risk. As indicated earlier, it is intended that this data will be used for the purpose of ongoing analysis of the risk profiles of these loans and to demonstrate their impact on energy efficiency and climate goals. Therefore, lending institutions in the Pilot Scheme should collect this data, together with the average annual greenhouse gas emissions intensity of each energy carrier and make it available in anonymised format to the Energy Efficient Mortgages Initiative Coordinator EMF-ECBC, complying with all relevant data protection laws.



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Criterion 3 – Quality Assurance:

In addition to complying with all applicable national legislation and building regulations, works that impact on the energy performance of the building shall be:

1. Planned by a technical expert with an appropriate, ***nationally recognised*** qualification or accreditation; and
2. planned and undertaken in such a way as to ensure that the cost or technical feasibility of future energy efficiency improvements that would be necessary to achieve deep levels of renovation are not adversely affected; and
3. undertaken by a competent contractor with the appropriate, ***nationally recognised*** qualifications or accreditations, and approved by the lender.
4. Additionally, the building owner shall retain evidence of all works undertaken, including details of the products installed and their performance levels relating to energy efficiency, as well as manufacturer warranties. They should be able to present this evidence, on request, to the lender or their nominated third parties, including for example an accredited technical expert tasked with producing an updated EPC.

2.2. General Definitions

This section sets out requirements for key elements in the building performance assessment criteria above. Throughout the criteria, bold, italic text indicates a reference to these general definitions.

Energy performance

For the Pilot Scheme, the ***energy performance*** assessment should be based on a calculation⁶ of the delivered energy (kWh/m² per annum) for heating, domestic hot water, cooling and ventilation. For commercial buildings, lighting shall also be included and may be included for residential, wherever this is part of existing national calculation methodologies. Calculations should be based on either:

- a. National calculation methodologies (such as an asset rating EPC)
- b. Other calculation tools that comply with relevant European standards, such as applicable parts of EN 52000.

⁶ Energy calculations for a building are based on standard assumptions about the internal and external climate and as such are a predictor of the inherent performance of the building, independent of its occupants.



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Lending institutions are strongly advised to only accept calculations (such as asset rating EPCs) where the inputs have been verified by the assessor during a site inspection and through the checking of documentary evidence. This shall be conducted by a technical expert, accredited by a ***nationally recognised*** body.

If calculations based on either option a or b above are not available, then ***measured energy consumption*** may be used as an alternative metric to demonstrate compliance with Criterion 1, provided that this is normalised for climatic conditions. This data could, for example, be taken from an operational rating Energy Performance Certificate or from another nationally recognised performance assessment methodology.

Measured energy consumption

The measured energy consumption of a building refers to actual energy consumed, as recorded by a meter installed at the premises. It therefore reflects the actual internal and external climatic conditions and can differ significantly from the calculated energy requirement. In the Pilot Scheme, measured energy shall be monitored using smart meters, wherever feasible. Manual meter readings may be accepted but should be recorded at least monthly. Meter data should be provided for each energy carrier used in the property. The data should be made available to the lending institution, or the lending institutions nominated third party, to evaluate performance and passed on to the Energy Efficient Mortgages Initiative Coordinator in anonymised form, complying with all relevant data protection laws.

Nationally recognised

National recognition (of a method, approach or accreditation as being appropriate for fulfilling one of the criteria set out in this document) shall be defined by mutual agreement of the national organisations representing the Energy Efficient Mortgage Initiative (national governance to be confirmed as part of the Pilot Scheme). These national organisations shall consult and take advice from other relevant stakeholders in the mortgage finance value-chain as appropriate. In some countries, these definitions may need to be set differently for different regions. During the Pilot Scheme, these definitions shall be overseen by the Consortia behind the Energy Efficient Mortgages Initiative.



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2.3. Future Ambition

This Section 2.3 signals areas of potential future development for EEM, and is not part of the formal Pilot Scheme building assessment criteria outlined above. In the longer term, EEMs should help to drive improvements in the building stock which are aligned with European and global climate and sustainability goals. Market actors should work to ensure that over time, these products and the supporting value chain develop to a stage where they enable building owners to undertake the ‘next step’ in properly planned, staged, deep energy renovations, over the lifecycle of their property. Where they can be combined with other sources of finance, they may even allow the owner to achieve deep levels of renovation in a single stage project. Equally, when applied to new buildings, they should help drive best practice. This will ensure that EEMs are robust in terms of putting each asset on a pathway that is aligned with European and global climate and sustainability goals. For the Pilot Scheme, it is recognised that certain infrastructure that would help enable this level of ambition (notably building passports) is lacking, and so a pragmatic starting point has been developed, that nevertheless will not create barriers to staged deep renovation over time.

There are a number of areas which will necessarily need to be strengthened in the future as the EEM market matures. These areas are outlined below.

Energy Metrics

The key eligibility criteria for ensuring a building meets the necessary level of energy performance will need to be regularly reviewed. In particular, the use of calculated or measured energy data or a combination of these should be reviewed, as should the thresholds set for new builds and for renovations. Furthermore, in future, techniques to evaluate the real energy performance of a building using site measurements may become available. These techniques can be used to measure the intrinsic performance of the building envelope and the energy systems in the building, separate from the energy use pattern of any specific occupant(s). As these approaches mature, they could offer lending institutions a more accurate assessment of the actual thermal performance delivered by a renovation or of a new building. The suitability of these techniques will remain under review.

In reviewing the energy metrics and criteria, it will be necessary to observe and respond to the ongoing developments of national minimum energy performance requirements, NZEB definitions and other regulatory and voluntary standards in the market. In particular, the potential for regulatory developments to introduce the risk of obsolescence, such as the introduction of minimum energy efficiency standards at sale or rental, will need to be closely monitored.



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Ongoing Performance Monitoring and Performance Guarantees

A key element in the ongoing design of the EEM will be to develop suitable mechanisms to ensure that the predicted performance or performance improvement is realised in practice. At this early stage of development of the concept, requiring a full performance guarantee is considered to be too onerous for the pilot stage. The mechanisms for ensuring performance levels are met and maintained will be regularly reviewed. One important consideration will be whether, for the purposes of monitoring lending risk, the performance is monitored at the level of individual properties or across portfolios.

Building Energy/Renovation Passports

Building energy or renovation ‘passports’ can improve the availability of data for valuers and lending institutions and ensure that any renovation works are planned and implemented in a technically sound manner. Research undertaken as part of the Energy Efficient Mortgages Initiative indicates that borrowers see the value of having a building energy passport linked to the EEM. However, there are currently only three pilots of such passports in existence in Europe. Therefore, their incorporation into the EEM criteria cannot be a prerequisite for the pilot and will be subject to ongoing review. In particular the Energy Efficient Mortgages Initiative will be working with the [iBRoad project](#) to assess likely future requirements for building energy passports and how these instruments can be made most useful for lenders, valuers and other actors in the EEM value chain.

Wider Sustainability

The evidence gathered by the Energy Efficient Mortgages Initiative shows that there is a strong case to be made for expanding the criteria for EEMs to incorporate wider sustainability performance aspects. These aspects are often much stronger drivers of property value and their incorporation could have a greater risk mitigation effect for lenders than energy performance alone. These aspects can be assessed using voluntary sustainability certification schemes, which are already increasingly common in the commercial property sector and are in early development in the residential sector in several European countries. The European Commission’s new ‘[Level\(s\)](#)’ framework for sustainable building performance reporting is intended to further standardise the metrics and approaches used to evaluate these wider sustainability aspects. The suitability of Level(s) and other voluntary schemes to form the basis of criteria and assessment for a more comprehensive ‘green mortgage’ framework will be the subject of ongoing review within the Energy Efficient Mortgages Initiative’s governance.

For markets where voluntary sustainability certifications for new commercial buildings have become standard practice, the Pilot Scheme criteria set out above are not intended to preclude lending institutions applying a more rigorous standard. Additional criteria, based on an accepted voluntary sustainability certification scheme, may also be used provided the three basic criteria in Section 2.1 are also complied with.



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3. Valuation Guidance and Energy Efficient Checklist

a. Background

The objective of the checklist in **Annex I** for use by valuers conducting secured lending valuations is to support European lending institutions to develop a dedicated 'Energy Efficient Mortgage (EEM) product that will help drive the ambition to achieve low carbon buildings. The proposed valuation guidance and energy efficiency checklist are intended to be an additional section to existing lending valuation instructions. It is expected that, over time, it may become part of the standard valuation instruction letters issued by lending institutions.

Mortgage lending valuations are typically undertaken by expert, qualified and independent valuers who inspect the property, taking note of all factors considered salient to value and then analysing other market transactions from within the locality. Current prevailing practice for secured lending is that valuers are not instructed specifically to consider the energy performance of the property. If considered relevant to value, based on market evidence, energy efficiency will be implicitly factored in by a valuer. Nevertheless, their report will normally not make specific reference to energy certification or characteristics observed. However, it is known that in many cases, buildings which are energy inefficient may well represent a value risk moving forward, whilst those that are efficient will probably be more saleable and in time hold their value more robustly.

From discussions to this point, it has become clear that greater clarity and standardisation of instructions to valuers, with respect to reporting on energy efficiency, would assist lending institutions to develop a clearer and more explicit understanding of the potential risks associated with properties that could be subject to value depreciation due the building's energy characteristics.

However, it is recognised that this would involve the valuer in some additional work. The advantage to the valuer is that, over time, they would be able to develop better data records to enable them to comply with the recommendations contained in relevant valuation standards and guidelines⁷ and to compare properties more explicitly in relation to specific energy efficiency characteristics.

The intention of the Pilot Scheme is to assess the content and usefulness of the checklist for all stakeholders.

⁷ Such as RICS (2017) Valuation Global Standards PS2 and VPGA 8; TEGoVA (2016) European Valuation Standards EVGN 8.



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b. Practical Application of the Checklist

Buildings may be complex structures, and every element from design to construction materials, to location, is likely to have an impact on the building's energy performance. Assessing a building's energy efficiency credentials as well as their potential impact on value is a complex activity and not a precise science. It is the role of the valuer to synthesise the information that they can gather and form a reasoned professional judgement based upon evidence as to the extent, if any, that the level of energy efficiency – or indeed inefficiency – impacts on the value. This assessment is done at a moment in time and does not provide the lender with information as to whether the property being offered as security for a loan presents a high or low risk of value depreciation moving forward and yet it is the risk attached to any loan that is of interest to the lender.

Annex I contains a standardised checklist of indicators which valuers are asked to use for the purpose of carrying out valuations for energy efficient mortgages. The extent and approach of reflecting this in value estimates is likely to depend on a range of factors including, among others:

- the underlying definition of value
- property type
- regional and local market conditions
- regional and local climate and energy price relationships
- regional and local conventions, etc.
- availability of comparable evidence within the local sub-market.

It follows that the impact of energy efficiency on value may vary significantly, as may the potential for value stability or decline in relation to energy factors. In addition, the valuer's professional judgement will also affect the strength of the impact.

The checklist is aimed at supporting the valuer to improve and standardise further their inspection and reporting processes – if a standard checklist can be agreed by the major lending institutions. The checklist, as drafted is tailored for residential properties however it is intended to be flexible enough to also apply to commercial properties.

Under the proposal, the valuer would use the list of indicators within their overall decision-making matrix as they form their holistic judgements and it would enable them to record energy efficiency risks explicitly. This is central to the Energy Efficient Mortgages Initiative, as it will provide the possibility of aggregating and analysing the data, establishing evidence and correlation with probability of default and loan-to-value differentiation. It will also assist valuers with their own data collection and analysis. Further scoring and weighting of risks will be carried out by the lending institutions against additional credit-worthiness criteria, such as the profile of the borrower.



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When using the checklist, valuers are asked to:

- assess the extent to which the subject property currently ranks in relation to specified energy efficiency criteria and assess whether it is below/meets/exceeds the normal market expectation in relation to other comparable properties in that sub-market i.e. whether a well-informed purchaser would regard them as needing improvement (red) be as expected (amber) or be a positive (green) in respect of their decision as to an offer price;
- provide comments, where appropriate, to expand on the reasons for their assessment in respect of each characteristic;
- in accordance with valuation professional guidance recommendations⁸, provide a general statement of their opinion on the relationship between energy efficiency factors and the resultant valuation, including a comment on the current benefits/risks that are associated with these sustainability characteristics, or the lack of risks; and
- provide a statement of the valuer's opinion on the potential impact of these benefits and/or risks to relative property values over time.

c. Collecting evidence: inspection and data availability

For owner-occupied residential buildings, the role of the valuer is to assess market value in the light of evidence normally obtained through analysis of comparable evidence. Energy efficiency characteristics should only be built into a report on value where market evidence would support this⁹.

Mortgage lending institutions and their valuers are strongly advised to collect and record appropriate and sufficient energy efficiency data, as and when it becomes available, for future comparability, even if it does not currently impact on value. This could be particularly beneficial where the valuer is retained to provide regular reports to a client.

Valuers will in their current practice hold sufficient information to enable them to make an informed judgment and provide sound advice to the client. Information may have been provided through valuers' due diligence processes and must be subject to appropriate verification. In undertaking their investigations, the valuer should ask the lender and the energy assessor to provide data on energy performance **according to the Building Performance Assessment Criteria** (see Section 2). If lending institutions are unable (or unwilling) to provide data, then this will be a potential additional risk factor.

⁸ For example, RICS (2017) Valuation Global Standards VPGA 8.

⁹ RICS (2017) Valuation Global Standards VPGA 8 and TEGoVA (2016) European Valuation Standards EVGN 8.



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The Building Performance Assessment Criteria (Section 2) provide transparent, consistent and verifiable energy performance assessment, ongoing monitoring of the measured energy consumption and quality assurance of the energy efficiency works undertaken. Additionally, it is envisaged that a building energy passport will be made available in the future, containing relevant and up to date building information and disaggregated data inputs.

d. Knowledge and skills

Valuers undertaking valuations in the context of energy efficient mortgages will need to ensure that they have sufficient knowledge and skills in identifying and assessing specific characteristics. Many already do have high levels of knowledge in this area, but nonetheless are encouraged to complete the Renovalue training programme¹⁰ and the associated forthcoming Energy Efficient Mortgages Initiative's training module, specifically designed to educate valuers and help them recognise energy efficiency features and the implications these could have on property values in the short, medium and longer term. It is anticipated that, over time, such training may be a pre-requisite to undertaking secured lending valuations.

¹⁰ Renovalue (www.renovalue.eu) is a free, publicly available training toolkit for property valuation professionals on how to factor energy efficiency and renewable energy issues into valuation practices and understand the impact of building performance on property values. Renovalue received financial support from the Intelligent Energy Europe Programme of the European Union. At the time of drafting this document, we understand that this is the only publicly available training programme on valuation and energy efficiency.



Energy Efficient Mortgages Initiative

Annex I: Valuation and Energy Efficiency Checklist

The checklist is aimed to complement existing valuation instructions. Since no standard reporting template exists, some of the indicators below might already be part of existing valuation instructions. If the instruction allows, however, it is advised to consider and make specific reference to those indicators and observed energy efficiency characteristics which potentially could have an impact on value. The checklist does not attempt to be a comprehensive list of all factors which the valuer will consider.

The checklist is intended to serve different lending scenarios; these include but are not limited to:

- origination of a new or extension of an existing mortgage for a property undergoing renovation,
- origination of a new mortgage for an already energy efficient property,
- re-mortgage.

Depending on the lending scenario and/or the property-specific information already available/recorded, lending institutions may wish to complement existing valuation instructions with selected indicators from the checklist. In either case it is, however, important to consider that capturing information on the indicators contained in the checklist is essential for measuring the performance of energy efficient mortgages and for benchmarking them in relation to key risk indicators such as probability of default (PD) or loss given default (LGD).



Energy Efficient Mortgages Initiative

INSTRUCTIONS

Please complete the grid below in accordance with the colour code. The description column only needs completing if the factor is not detailed in your valuation report. The comment column is for you to provide a brief rationale for your 'RAG' judgement where this is not obvious.

Guidance on completion is contained in the guidance notes following the checklist.

If your instruction precludes you for completing the full checklist, please complete the documentation (Section A) and/or summary section (Section D) only.

- **Red:** Below market 'norm' – value actually/potentially at risk over period of proposed loan
- **Amber:** Toward the lower end of market expectations – may be at risk in medium term
- **Green:** At or above market expectations
- **Grey:** No data available



Energy Efficient Mortgages Initiative

The Checklist

| Indicators with potential impact on energy demand | | Description (if not already included in valuation report) | Red (does not meet normal expectations) | Amber (in line with normal expectations) | Green (beyond normal market expectation) | Grey (no data available) | Comment if required |
|---|--|---|---|--|--|--------------------------|---------------------|
| DOCUMENTATIONS | | | | | | | |
| A1 | EPC rating | | | | | | |
| A2 | Calculated &/or measured energy in kWh/m2/pa | | | | | | |
| A3 | Building documentation availability (guarantees etc; evidence of regulatory compliance.) | | | | | | |



Energy Efficient Mortgages Initiative

| Indicators with potential impact on energy demand | | Description (if not already included in valuation report) | Red (does not meet normal expectations) | Amber (in line with normal expectations) | Green (beyond normal market expectation) | Grey (no data available) | Comment if required |
|---|------------------------------|---|---|--|--|--------------------------|---------------------|
| BUILDING STRUCTURE | | | | | | | |
| B1 | Building age | | | | | | |
| B2 | Type of Construction | | | | | | |
| B3 | Condition of structure | | | | | | |
| B4 | Quality of windows and frame | | | | | | |
| B5 | Wall insulation | | | | | | |
| B6 | Floor insulation | | | | | | |
| B7 | Roof Insulation | | | | | | |
| B8 | Orientation and Exposure | | | | | | |



Energy Efficient Mortgages Initiative

| Indicators with potential impact on energy demand | | Description (if not already included in valuation report) | Red (does not meet normal expectations) | Amber (in line with normal expectations) | Green (beyond normal market expectation) | Grey (no data available) | Comment if required |
|---|--------------------------------------|---|---|--|--|--------------------------|---------------------|
| BUILDING SERVICES | | | | | | | |
| C1 | Primary Energy Source | | | | | | |
| C2 | Renewables on Site? | | | | | | |
| C3 | Type of Heating System | | | | | | |
| C4 | Age and condition of heating systems | | | | | | |
| C5 | Type of cooling System | | | | | | |
| C6 | Age and condition of cooling systems | | | | | | |
| C7 | Lighting systems | | | | | | |



Energy Efficient Mortgages Initiative

| Indicators with potential impact on energy demand | | Description (if not already included in valuation report) | Red (does not meet normal expectations) | Amber (in line with normal expectations) | Green (beyond normal market expectation) | Grey (no data available) | Comment if required |
|---|---|---|---|--|--|--------------------------|---------------------|
| SUMMARY VIEWS | | | | | | | |
| D1 | Market expectations | | | | | | |
| D2 | Requirements for upgrade | | | | | | |
| D3 | Ease of upgrade | | | | | | |
| D4 | Risk of value decline based on energy assessments | | | | | | |



GUIDANCE

The Consortia behind the Energy Efficient Mortgages Initiative are working on additional reporting guidelines to support the practical application of the checklist. Provisional guidance on selected core indicators is provided below:

EPC rating

If the property has a valid Energy Performance Certificate (EPC), the EPC rating should be declared and assessed against the national/regional normal/average for the type of property; the valuer should therefore be cognisant of the general level of EPCs and any market implications thereof. It should be noted that EPCs do not always represent a true measure of a building's energy efficiency. Their currency and accuracy may depend on the date at which they were produced and the methodology used. The valuer will mark the property with a "Red" where the EPC is below the normal and will mark the property "Green" normally only if it is recorded at 2 grades above the average.

Further, it is important to note that many historic buildings or ones that have not transacted since 2008 will probably not have a valid EPC.

Market expectations

Property markets are complex and diverse. The standard expectations of market players vary according to location and value bracket among other factors. The valuer is asked to reflect on the overall energy efficiency characteristics of the property and make a judgement as to whether the property is below the general expectation and requires (possibly) significant capital investment to bring it to the market norm (Red) or is in line with expectations currently but is likely to require some work 'within cycle' to retain its position (Amber) or significantly better than would be expected, possibly due to reliance on renewables, a well-insulated envelope appropriate to the location and any level of weather exposure, modern good quality services and with little expectation of upgrade needs within the medium term (Green).

The valuer is not required to undertake a survey to do this but to reflect on market expectations and direction of travel.



Requirements for upgrade

If a building is rated overall at Red or Amber, there is likely to be upgrade work required immediately or in the near future. The valuer is asked to reflect on whether, in relation to the overall value of the property, this expenditure is very significant and essential (Red); often this will relate to works to the envelope. This would indicate a Red rating. Where works are minor and within the scope of recurrent works, such as boiler replacement, new light fittings, the judgement will be Amber. Where the valuer considers that there are no requirements for upgrade, the judgement will be Green.

The valuer is not expected to obtain costings for any work but to use their skill, expertise and experience to make a judgement. However, there may be some cases where, in the valuer's opinion, a valuation of the asset does require input from an energy assessor or building surveyor/building engineer before reaching their value judgement. In such cases the rating will be established after such additional report has been obtained.

Ease of upgrade

As above, what is required is a generalised judgement – not a detailed estimate of a work programme. The key consideration is the extent to which the works are disruptive – and could involve the borrower in costs of e.g. alternative accommodation – or could be easily accommodated alongside works of decoration or e.g. kitchen or bath/shower room refits.

Risk of value decline based on energy assessments

It is acknowledged that, in most markets, there may be little current market evidence to directly link energy efficiency to market value, however it is rising up the list of consumer preferences. Additionally, the legislative and regulatory frameworks are encouraging consumer awareness or incentivising the choice of 'greener' stock. Further, as new stock comes on to the market which is more energy efficient, that which is not may suffer value decline (brown discount). Valuers are asked to grade the subject property according to the level of risk of value decline due to the energy efficiency characteristics weighed against other valuer drivers.



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