EeMAP
Energy efficient Mortgages Action Plan

CREATING AN ENERGY EFFICIENT MORTGAGE FOR EUROPE

White Paper: Preliminary Recommendations

EeMAP – Energy efficient Mortgages Action Plan – is an initiative by the European Mortgage Federation - European Covered Bond Council (EMF-ECBC); Europe Regional Network of the World Green Building Council; Royal Institution of Chartered Surveyors; Ca' Foscari University of Venice, E.ON and SAFE Goethe University Frankfurt. **www.energyefficientmortgages.eu**

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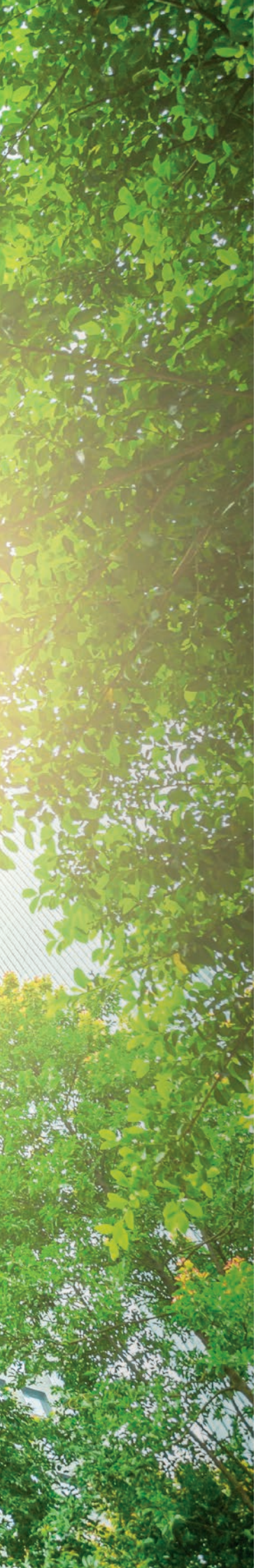

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EXECUTIVE SUMMARY

This White Paper presents an overview of current practices in relation to finance, energy efficiency indicators, property valuation and the impact of energy efficiency on risk management in the context of the private bank financing of energy efficiency in the EU's building stock. In producing this White Paper, EMF-ECBC has summarised the results of comprehensive research findings which are detailed in four underlying EeMAP Technical Reports on the same topics (available here), and which constitute the basis of initial cross-sectorial conclusions and recommendations regarding the cornerstones of a future Energy Efficient Mortgage product.

A number of important recommendations from banks emerge from the research: (1) in order to facilitate market entry by banks, an Energy Efficient Mortgage product should be supported by a simple and standardised framework allowing for national heterogeneity, with guidance on the underlying finance mechanism, (2) a clear definition of an Energy Efficient Mortgage is required to enable banks to differentiate between energy efficient and conventional mortgages in their risk management processes, (3) in order to ensure that energy efficiency is appropriately taken account of in property valuations, banks should be guided on how and what to instruct property valuers in relation to energy performance of buildings, and (4) in order for banks to be able to integrate energy efficiency in credit risk assessments, energy efficiency performance indicators should be simple and proportionate, with flexibility to take account of differences between current national approaches.

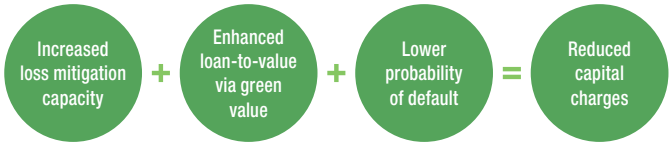
In closing, the White Paper points to a number of elements which will be taken forward to the next stage of the EeMAP Initiative, and presents the agendas of the EeMAP Banking & Finance, Energy Efficiency and Valuation & Data Committees for the coming months. The White Paper ends with a call to action that targets banks, property sector professionals, utilities, and national and EU policymakers. The engagement of all of these stakeholders in subsequent phases of the EeMAP Initiative is vital to its success.

INTRODUCTION

Buildings account for 40% of EU energy use, and it is estimated that the EU needs to invest around EUR 100 billion annually in building renovations to meet its energy and climate goals. The EU has increased the amount of public funds available for energy efficiency, but the European Commission has indicated that there is a need to boost private energy investments – the EeMAP project is intended to deliver a concrete, market-led finance solution to help bridge the gap.

The EeMAP Initiative (www.energyefficientmortgages.eu) aims to create a European Energy Efficient Mortgage, to 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.

Mortgage lenders have a clear interest in the state of the EU building stock. Mortgage loans are estimated to account for around a third of the total assets of the European banking sector. Investments in building performance improvements can help to free-up disposable income for borrowers through lower utility bills and can enhance property value. As a result, they can reduce credit risk, so they are a win-win for lenders, investors, consumers and climate. At the heart of the initiative is the objective to demonstrate that energy efficiency has a risk mitigation effect for banks:



Lower risks 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 **White Paper** aims to summarise the state of play and best practice across green finance (both origination and funding), property valuation and energy efficiency measurement in buildings; the cornerstones of a future Energy Efficient Mortgage product. Both new build and existing residential and non-residential buildings are within the scope of the work EeMAP is doing to establish an Energy Efficient Mortgage. However, the initiative's central focus is how we create the biggest impact on Europe's climate goals by driving renovation across the residential building stock.

The EeMAP Consortium partners have conducted extensive desktop research into the current state of play in their respective fields, and started the process of assessing the implications each has for the others. This has been supported by consultation with experts and key stakeholders, primarily through the three technical committees of the project. A survey of members of the Finance and Banking Committee was also conducted to provide an up to date picture of current banking practices. The analysis and discussion of the research is presented in detail in the EeMAP Technical Reports, which have been authored by the different organisations within the EeMAP Consortium and are available separately:

- Review of the State of Play on Green Finance (available on the EeMAP website here)
- Review of the State of Play on Mortgage Lending Valuation and the Impact of Energy Efficiency Value (available on the EeMAP website here)
- Review of the State of Play on Building Performance Indicators that Impact Mortgage Credit Risk (available on the EeMAP website here)
- Review of the Impact of Energy Efficiency on the Probability of Default (available on the EeMAP website here)

The White Paper provides a synopsis of each of the above four Technical Report in turn and then puts forward recommendations that will guide and shape the design and delivery of a pan-European Energy Efficient Mortgage framework. While the considerations presented in this paper provide a clear path forward, the initial framework is expected to evolve and be refined over time as ongoing analysis is conducted and as the results of the EeMAP Pilot Phase[1], to be launched in 2018, begin to emerge.

In this way, the EeMAP Initiative runs in parallel with the work of the High-Level Expert Group on Sustainable Finance (HLEG) on how to integrate sustainability considerations into financial policy frameworks in order to mobilise finance for sustainable growth. The HLEG is excepted to publish recommendations on developing a comprehensive EU strategy on sustainable finance later this year. From a broader perspective, EeMAP's Energy Efficient Mortgage has the potential not only to make a crucial contribution to the realisation of the Capital Markets Union (CMU), which puts a strong focus on sustainable and green financing, but also enhance banks' ability to manage their mortgage portfolios through greater transparency and data analysis. This can help them to better identify and address non-performing loans and prepare for the long-term risk which climate change poses for financial markets, in this way reinforcing financial stability.

1 — The EeMAP Pilot Phase aims to test the initial recommended product framework produced by the three technical committees (Finance & Banking, Energy Efficiency and Valuation & Data) and is excepted to begin in 2018. The findings of the Pilot Phase will feed back into the product framework design with a view to delivering a workable Energy Efficient Mortgage Product in final stage of the EeMAP Initiative.

GREEN FINANCE:
STATE OF PLAY

The EeMAP Technical Report on Green Finance delivers an up-to-date overview of the state of play of this market segment in Europe, with an emphasis on energy efficiency where possible. It reviews current market practices on both the origination and funding sides of the mortgage business. This provides an insight into how green financial products vary across banks and national markets. The report proposes recommendations for the EeMAP Initiative by identifying and evaluating key characteristics which an Energy Efficient Mortgage product should encompass in order to meet the needs of banks and consumers. The research covers EU Member States and key international markets.

On the origination side, the research considers past and current examples of green finance in order to understand potential barriers to market entry. While green finance products represent a growing share of the portfolio for some banks, perceived lack of market interest together with operational and technical considerations, such as IT barriers and legal obstacles, are discouraging others.

One of the key premises of the EeMAP Initiative is that energy efficiency has a positive impact on credit risk. A review of the market demonstrates that in general at present no differentiation is made in risk management processes between green and conventional mortgages in relation to probability-of-default (PD), loss-given-default (LGD), debt-to-income (DIO), loan-to-value (LTV), prepayment rates etc. Furthermore, the loan data of very few banks would allow for a comparison of LGD and increased asset value and a correlation to be drawn between PD, LGD and the energy rating of the property in question nor could it be used to show any increase in value due to energy performance improvements. However, in both of these cases, it is generally agreed amongst the banks consulted, that if a differentiation were clearly made between energy efficiency and conventional mortgages, it would be possible to collect relevant data and then analyse it.

Different lines of thinking exist on whether green features impact the risk profile of a financial product, and whether therefore there is a case for reviewing the current capital framework to take account of energy efficiency. Nevertheless, the current lack of standardised EU datasets of such products must be overcome in order for the case to be made for a realignment of capital charges to reflect the potential positive impact of energy efficiency on credit risk. Without the framework that the EeMAP Consortium is working to establish, and a subsequent Pilot Phase to collect data, this debate cannot move forwards.

Property valuation plays a fundamental role for banks in managing the risks associated with lending. It therefore follows that if energy efficiency has an impact on credit risk, banks should be aware of the energy efficiency of the properties against which they are lending. It further follows that valuers should be instructed to collect this data, if available, and comment on its relationship, if any, with the values reported. However, only a quarter of the banks interviewed specifically instruct valuers to report on energy efficiency of buildings in their valuation reports.

Similarly, whilst some banks collect energy-related data for the purpose of originating green mortgages, many do not. Those that do not collect data have, however, indicated that their IT systems could be adapted to allow for such information to be recorded. The main challenge to do so, as highlighted by banks, is the current lack of standardised energy efficiency measurement criteria. In this respect, it is important to note that EeMAP research on energy performance indicators, which is summarised in the following section, suggests that the introduction of a totally 'harmonised' system across the EU will be difficult to achieve due to differences in Member States' approaches. Nonetheless, the same research also suggests that a system of comparable processes/frameworks – allowing for the integration of national standards and approaches – could be a feasible and alternative to achieve the result banks are looking for regarding collection of consistent and comparable data.

From the perspective of the funding side of the mortgage market, although they remain for the time being relatively 'niche', green and sustainable bonds are a fast-growing segment drawing much attention. The EeMAP Technical Report on Green Finance examines the green bond programmes of a number of pioneers. Of those banks which have no previous or current experience with green bond issuance, several indicate that internal discussions regarding future green issuance are taking place. Currently the market does not really distinguish between green/sustainable bonds and conventional bonds in terms of pricing. Despite this, it is apparent that green funding instruments are attracting new investors to the table, and are often quickly over-subscribed.

The majority of investors do not have experience with green investments, though some report that current political and market-driven developments could make a case for entering the market. As the case studies used for the purpose of the EeMAP Technical Report on Green Finance show, there is reason to believe that there is significant potential for the green/sustainable bond market, and several banks anticipate robust investor demand for energy efficient mortgage-based securities going forward.

IMPACT OF ENERGY EFFICIENCY ON THE PROBABILITY OF DEFAULT:
STATE OF PLAY

Identifying links between buildings' energy efficiency and mortgage default risk has the potential to unfold benefits to borrowers, lenders and investors alike. Thus, the objective of the EeMAP Technical Report on the Impact of Energy Efficiency on the Probability of Default is to assess previous academic research in this area and to outline guidelines for best practice regarding future analyses.

In theory, mortgages on energy efficient houses should have lower risks relative to less efficient houses. If a borrower has to spend less on energy this will result in more income available in case of emergencies or unexpected events. However, despite worldwide and decade-long efforts to implement (i) energy efficiency regulations, (ii) appropriate building technology and (iii) efficiency measurement schemes, little research has been conducted on the direct link between building performance and default risk.

The EeMAP Initiative has explored the topic from three perspectives:

- firstly, the direct effect of energy efficiency on default risk;
- secondly, the potential indirect impact of energy efficiency on default risk via the cash flow channel, i.e., the association of energy efficiency with higher building rents and sale prices;
- and thirdly, whether investors demand lower risk premia for bonds with sustainability features.

To date, only three studies have attempted to measure the direct impact of energy efficiency on mortgage default risk. All three studies were conducted using data in the United States. Among these, only one study employed residential mortgage data while the other two investigated commercial buildings. However, the outcomes are encouraging. All studies find evidence of a significant reduction in default risk associated with energy efficiency. This effect is larger for more efficient homes. Thus, not only the energy efficiency label alone but also the degree of efficiency plays a substantial role. However, it is necessary to bear in mind that endogeneity issues, i.e. simultaneity in cause and effect, could not be fully ruled out in these studies.

Default risk rises if declining cash flow prevents loan repayment or if decreasing property value produces negative net equity. In both cases, the attractiveness of the building – to prospective tenants as well as to potential buyers – plays a role. Thus, the impact of energy efficiency on a building's rent and valuation has the potential to reveal its effect on default risk via the cash flow channel. In fact, studies around the globe confirm that an energy efficiency label, as well as the degree of energy efficiency, is associated with a positive rent and price premium of residential and commercial buildings, thus, potentially contributing to lower cash flow risk.

In financial markets, lower default risk of debt is likely to translate into a lower risk premium required by investors, which in turn can potentially result in lower cost of debt for borrowers. Two recent studies document that in the bond market both energy efficiency and greenness factors in a broader sense are associated with higher prices and therefore lower risk premia. These results indicate that market participants favourably take into account sustainability features of bonds when assessing their risk of default.

The EeMAP Technical Report on the Impact of Energy Efficiency on the Probability of Default provides two important takeaways for future studies. First, previous research has encountered obstacles such as data availability or privacy concerns during its data collection procedures. These hindrances should be addressed by data collectors and providers alike. Second, a correct model should be chosen cautiously as omission of important variables, such as building location or borrower income, could lead to biased results.

Data availability is obviously a key challenge to be addressed. The collection of larger data sets that are accompanied with standardised energy efficiency metrics across building types and geographic regions is of great importance and should be mobilised with the united effort of building rating associations, mortgage underwriters and the corresponding governmental agencies.

BUILDING PERFORMANCE INDICATORS THAT IMPACT MORTGAGE CREDIT RISK:
STATE OF PLAY

The EeMAP Technical Report on Building Performance Indicators that Impact Mortgage Credit Risk highlights that energy performance of a building can be assessed using calculations or measurements. Alternatively, where datasets are available that link energy performance to building or occupant characteristics, statistical correlations may also be used. All three approaches are currently used, in different ways, across Europe. Each approach has different strengths and weaknesses in terms of the scope of the assessment, the data requirements, and the potential relevance to different credit risk metrics used by banks.

The most widely available instrument for building energy performance information in Europe is the Energy Performance Certificate (EPC), a legal requirement for most buildings built, sold or rented. EPCs should be based on a calculation known as an 'asset rating'. This provides an assessment of the energy consumed under a standard set of operating conditions. As such it takes no account of the actual behaviour of the occupants, focussing only on the building's technical characteristics. In some cases measured energy data, normalised for climate and occupancy variations, is used and these are known as 'operational rating EPCs'.

Most EPC schemes across the EU follow the asset rating approach, but calculation methods vary from country to country. Moreover, efforts to design a voluntary, 'harmonised' EPC for non-residential buildings across the EU, driven in part by investor demand, have been ongoing since 2010. Initial proposals were rejected by Member States and this work has not yet been concluded, which acts as a caution to attempting to establish a fully 'harmonised' approach.

New European standards for calculating the energy performance of buildings have been developed and are internationally recognised through their adoption as ISO standards. These standards are available to Member States to integrate into their EPC systems. Whilst this is not mandatory, countries that choose to use national standards instead will be required to document these in a common format. This is anticipated to increase transparency as to where national systems differ and may in time lead to improved understanding of how EPCs from different countries can be compared.

The EPC is a cornerstone of EU energy policy for buildings, and further integration into property transactions will help to increase its visibility and value; acting as a driver for further improvements in the underlying EPC systems developed by each EU Member State. Having access to the underlying data used for EPC calculations could make EPCs more useful as a tool for lenders, valuers and energy assessors involved in Energy Efficient Mortgage originations. However, this is currently only possible in a small number of countries. In addition, the widespread use of the asset rating approach to generate EPCs means that it may be difficult to obtain actual measured energy data. This is likely to be the case where the borrower is moving to a new property and the energy data belongs to the previous occupant. The introduction of smart meters in many EU countries is expected to increase the volume of available energy data for all types of buildings, and there are pan-European initiatives to establish common standards for the authorised transfer of smart meter data to third parties. Such a system could streamline aspects of energy performance assessment and may be particularly useful for monitoring and verification of energy performance over time.

Increased availability of data across portfolios of similar properties and renovation works could also facilitate creation of statistical tools. These can be used to predict energy use when measured data for a particular property is not available or if the reliability of the calculated energy performance is unclear. For example, recent research from the UK provides strong statistical evidence that using EPC data, and other known parameters such as number of occupants, to improve the predicted household energy costs within a mortgage affordability calculation can justify around GBP 4,000 of additional borrowing on a typical energy-efficient renovation.

Energy efficiency improvements are intrinsically linked to wider co-benefits such as improved health and comfort for building occupants. These factors are often important drivers for energy efficiency renovations and there is a compelling case for looking beyond just energy performance to other building performance indicators that impact on credit risk.

The value of property is strongly linked to aspects such as quality, adaptability and location. The availability of sustainable transport options, the flexibility of the space for changing occupant needs, and resilience to future climate changes are all examples of important value drivers. Such considerations are typically assessed in voluntary sustainability certification schemes such as BREEAM, DGNB, HQE and LEED, common in the commercial building sector and already widely referenced in green bonds relating to commercial property. There are also other interesting examples of sustainability assessments targeting the residential building market, such as Miljöbyggnad in Sweden, or a Home Quality Mark scheme under development by the Dutch Green Building Council.

The European Commission has recently launched an EU sustainability reporting framework called 'Levels' for building projects. The framework is intended to be complementary to existing certifications schemes such as those listed above, and is aimed at generating more and more *comparable* data on sustainability performance. Importantly for mortgage lenders and investors it indicates the future direction of EU policy that may impact the sector during the typical lifetime of a mortgage product. Such potential regulatory developments should be taken into account, so that lenders can fully realise the value-creation and risk-mitigation potential of incorporating new building performance indicators into mortgage lending.

MORTGAGE LENDING VALUATION AND THE IMPACT OF ENERGY EFFICIENCY:
OVERVIEW OF CURRENT PRACTICES

The EeMAP Technical Report on Mortgage Lending Valuation and the Impact of Energy Efficiency has investigated three key aspects of the integration of energy and sustainability performance of buildings into risk assessment and valuation of properties for mortgage lending purposes:

- the current role of the valuer within the mortgage origination process;
- the extent to which energy efficiency or 'greenness' plays a part in those valuation and the associated risk assessment processes;
- an evaluation of the body of research on the relationship, if any, between a property's energy performance rating, and/or other energy or sustainability characteristics and its market and/or rental value.

The ability of valuers to advise on any observed links between energy efficiency and potential value risks/opportunities is key to enabling lenders to calculate mortgage affordability without increasing the credit risk and thus allowing additional funds for energy upgrades to be provided to the consumer at the same rate as the principal mortgage. A better understanding of the relationship between energy efficiency and value is also important for a more robust and risk sensitive property rating in the loan portfolio of banks.

Some empirical studies have identified premiums on pricing for highly energy efficient buildings in specific sub-markets. Nevertheless, there is no guarantee that an investment into energy efficiency upgrades will automatically lead to higher property values or higher rents. Moreover, no straightforward formula exists to account for energy efficiency and wider sustainability issues in valuation.

However, there are various ways of reflecting energy efficiency within the valuation process and in mortgage valuation reports. Importantly, improving energy efficiency has the potential to contribute to long term value creation and preservation of a property which help reduce the risks of so-called "brown discounts" and/or obsolescence. Energy efficient properties may therefore be of a lower risk to lenders, especially as energy efficiency upgrades are commonly coupled with other refurbishment/improvement measures, resulting in an overall quality improvement of the property.

Key requirements for a more accurate quantification and documentation of any potential value increases are the availability and accessibility of data and information on both building physical and performance characteristics. However, the market is still far from having a consistent approach to capturing and managing data and information. Partly this is because there continue to be questions over the usefulness of the current asset rating scope of EPCs for establishing links between energy consumption, building performance and buyer behaviour. However, it is generally accepted that they may be an enabling tool for raising stakeholder awareness.

It is important to understand the economic and non-economic drivers of potential consumers as well as for the "energy efficient" mortgage lending product. In the commercial market segment, economic interests dominate the investment decision-making process. By contrast, a residential owner´s decision-making process, and hence bid price, is often driven by non-economic, "soft" and emotional factors that may not always be directly related to energy efficiency.

RECOMMENDATIONS & CONCLUSIONS:
THE WAY FORWARD

The energy efficiency 'landscape' presents a heterogenous picture in relation to the different perspectives described in this White Paper. Such differences are not unexpected at this early stage, but a natural consequence when trying to align diverse sectors and markets for the purpose of designing a workable market product. Nonetheless, the conclusions of the four Technical Reports point to a common understanding and, importantly, similar and compatible conclusions. This is encouraging at this early stage and confirms that the development of a robust and effective Energy Efficient Mortgage framework is potentially within reach. Looking at this from a broader perspective, it is not too far a leap to anticipate that existing best practices in the area of energy efficiency could become a market benchmark for the green finance market in a more general sense going forward.

Drawing from the cross-sectoral research presented above, the recommendations presented below will help to shape and guide the design and delivery of an Energy Efficient Mortgage product which takes account of the realities and requirements of lenders, and property valuers in relation to assessing energy efficiency. Comprehensive consumer research is being conducted in parallel in order to map customer needs, wants and desires in relation to a standardised Energy Efficient Mortgage product and ensure that the EeMAP proposals are compatible with consumer requirements and expectations.

INITIAL CROSS-SECTORAL CONCLUSIONS & RECOMMENDATIONS

1. A **simple and standardised framework** for an Energy Efficient Mortgage is required to help pave the way to potential market entry.
   - This framework should address the range of scenarios that arise in mortgage lending e.g. residential or commercial property, new mortgage or re-mortgage, and provide guidance on the underlying financing mechanism.
   - The underlying financing mechanism should not be harmonised across lenders or Member States; rather the choice should be that of the lender acting according to their internal policies, the market, and the legal and regulatory landscape in which they operate.

2. A **clear definition** of an Energy Efficient Mortgage will help banks to make a **differentiation** between energy efficient and conventional mortgages in their **risk management** processes, and in this way, facilitate building the respective datasets.
   - The definition should be based on a simple and proportionate set of energy efficiency measurement indicators (see below).
   - By distinguishing between energy efficient and conventional mortgages, banks will be able to analyse the impact of energy efficiency on risk parameters and take account of this in the calculation of their credit risk using internal models.

3. **Guidance** to banks on how and what to **instruct property valuers** in relation to the energy performance of buildings would help to ensure that energy efficiency is appropriately taken account of in **property valuations**.
   - This guidance can draw experience from other EU funded projects with a specific focus on sustainability/energy efficiency of buildings and property valuation, namely RenoValue[2] and REvalue[3].

4. **Simple and proportionate energy efficiency measurement indicators** are also needed for banks to be able to integrate energy efficiency into credit risk assessments.
   - These indicators should be based on comparable processes/frameworks across the EU, indicating the nature of the energy data to be collected.
   - EPCs are the most widely available source of energy performance data on individual buildings and hence are a useful starting point for the assessment mechanism behind an Energy Efficient Mortgage. Lack of consistency between EPCs in different Member States, among other limitations, means that additional assessment criteria are likely to be required. A combination of energy performance assessment approaches (calculated and statistical estimates, and measured data) may provide the optimal solution to underpin the credit risk assessment for Energy Efficient Mortgages.
   - The feasibility of adopting such an approach needs to be investigated for key mortgage markets.
   - Other sustainable building performance aspects beyond energy are likely to have a strong influence on the value of a property over time. Including some of these wider considerations in the assessment framework for Energy Efficient Mortgages is expected to further improve the risk profile of such loans.

2 — The RenoValue project developed a training tool kit for property valuation professionals on how to factor sustainability into the valuation process.

3 — REvalue aims to incorporate energy efficiency into stock valuation by way of expert panels, data analytics and case studies.

CONCLUDING REMARKS

As indicated, this White Paper points to a number of elements which will be taken forward in the next stage of the EeMAP Initiative. Many of these elements already feature in the proposed EeMAP mechanism and will be further developed based on the recommendations outlined above; others are new and will be researched further in order to understand how to integrate them into the final Energy Efficient Mortgage framework. In the first instance, these findings will be crucial for the purposes of the design of a 'minimum viable product' which will be tested during the EeMAP Pilot Phase in 2018-2019.

Concretely, the next steps planned are as follows:

► EeMAP Banking & Finance Committee

In the coming months, the EeMAP Banking & Finance Committee will conduct further analysis and research to build on the work summarised here. The main focus will be to carry out the preparatory work to launch the 2018 EeMAP Pilot Phase in cooperation with the Energy Efficiency and Valuation & Data Committees, on the basis of the recommendations described at the end of this White Paper. The following concrete actions are planned:

- Preparation of draft guidelines for the banking sector with input from the three Technical Committees by the end of December 2017.
- Collection of comments and final input in January 2018.
- Finalisation of guidelines by February 2018.
- Launch of EeMAP Pilot Phase, during which the EeMAP guidelines will be implemented in banks' business lines and data collection will be undertaken, between March and June 2018.

► EeMAP Energy Efficiency Committee

Building on the research to date, the Europe Regional Network of the World Green Building Council, which moderates the EeMAP Energy Efficiency Committee, will now begin to prepare detailed technical recommendations for the building performance assessment to underpin the EeMAP Pilot Phase:

- At the start of 2018, draft recommendations for how a European Energy Efficient Mortgage could work from a building assessment perspective will be published for consultation.
- Alongside this, national Green Building Councils in 10 markets participating in EeMAP will publish a series of market briefs, setting out the relevant building performance assessment landscape in their countries.
- The EeMAP Consortium partner, E.ON, will publish its initial consumer insight research into how consumers in a number of European markets view the Energy Efficient Mortgage concept, ensuring that the process design is led by consumer-centred thinking.
- During Q1 of 2018, participating national Green Building Councils will host workshops – an opportunity for a wide range of experts to provide their feedback on our initial recommendations, and what would be needed to support implementation in their markets.
- In summer 2018, final recommendations for the Pilot Phase of the Energy Efficient Mortgage product will be published, and will work with the EeMAP Consortium on a roadmap for how to bring the Energy Efficient Mortgage product to market across Europe.

► EeMAP Valuation & Data Committee

The Royal Institution of Chartered Surveyors (RICS) will now begin to prepare detailed technical recommendations for better articulating value and risk implications of energy efficiency improvements based on the research described in this White Paper. RICS, as moderator of the EeMAP Valuation & Data Committee, will gather additional market insights on existing data collection routines and use of energy performance/sustainability data to calculate and monitor mortgage lending risks as well as current mortgage origination processes across Europe. The findings will be validated through a workshop in Q1 2018.

Looking forward, the EeMAP Valuation & Data Committee aims to:

- Develop a framework for standardised data collection and data analysis routines.
- Create a valuation checklist for banks and valuers to support systematic collection of data.
- Develop a practical toolkit for valuers with a special focus on property rating and Energy Efficient Mortgages.
- Develop the specifications and outline of a "data warehouse" intended to register and record the link between property features, energy rating, market transactions and loan performance.

Energy Efficiency Data Protocol & Portal (EeDaPP)

A recurring theme throughout the EeMAP Initiative, whether it be related to green "value" or energy efficiency and risk management, is data, or, rather, the lack of it. The forthcoming EeMAP Pilot Phase is intended to make the first move towards addressing this systemic lack of data by developing a comprehensive dataset that allows for a deeper analysis of the impact of energy efficiency on credit risk and probability of default. In the medium to long term, building on the specification and outline of a "data warehouse" described above, it is the intention that this process be optimised through a standardised energy efficiency data protocol and a centralised data portal. The design of this protocol and portal is the subject of a second application for EU funding under Horizon 2020 known as EeDaPP, for the gathering, processing and disclosing of data related to Energy Efficient Mortgages.

For more information, please see the EeDaPP press release here.

CALL TO ACTION

The EeMAP Initiative addresses clear and pressing needs and the potential benefits are significant. What is also clear is that success will require the support from all sectors so our White Paper concludes with **a call to action to stakeholders**.

Banks:

Mortgage lenders specifically are invited to join the Pilot Phase and support the design and development of the Energy Efficient Mortgage product. Interested banks should contact EeMAP@hypo.org or lbertalot@hypo.org.

Utilities:

The EeMAP Consortium is seeking to establish an utilities working group. Expressions of interest are invited from utility companies across Europe to join this group and help define the role that this important group of actors can take in the development of Energy Efficient Mortgages. Interested stakeholders should contact EeMAP@hypo.org or Marco.Marijewycz@eon.com.

All stakeholders:

EeMAP workshops will be organised by the Europe Regional Network of the World Green Building Council and the Royal Institution of Chartered Surveyors (RICS) in more than 10 countries around the EU. The aim will be to help shape the broader Energy Efficient Mortgage framework at EU and national level. To register your interest to attend, contact europe@worldgbc.org or ztoth@rics.org.

EU policymakers:

The overall success of EeMAP is also contingent on a strong and coordinated signal of support from EU policymakers dealing with energy efficiency and banking/finance. In particular, support for an energy efficiency finance 'sandbox', in which recognised lower risks allow for the potential realignment of capital requirements in the longer term would be instrumental in ensuring engagement of the financial sector.

EEMAP INITIATIVE SUPPORTED BY

GREEN
BUILDING
COUNCIL
FINLAND

REALKREDIT-
RÅDET
FINANS DANMARK

DGNB
Deutsche Gesellschaft für Nachhaltiges Bauen
German Sustainable Building Council

HYPOPORT

INVESTOR
CONFIDENCE
PROJECT

ING

IGBC
IRISH GREEN BUILDING COUNCIL

GREEN BUILDING COUNCIL ITALIA

Japan Housing
Finance Agency

KNAUFINSULATION

LBBW
Landesbank Baden-Württemberg

LENDERS
Improving energy costs in mortgages
Promoting energy efficiency in homes

MünchenerHyp

MEP
MY ENERGY PARTNER

NORD/LB

obvion
hypotheken

PLGBC
Polish Green Building Council

RICS

ROCKWOOL

S&P Global
Ratings

SAINT-GOBAIN

Simmons & Simmons

SOCIETE
GENERALE

STRASSER
CAPITAL

HOUSE OF FINANCE
SAFE
Sustainable Architecture for Finance in Europe

SWEDEN
GREEN BUILDING
COUNCIL

TXS
FUNDING
SOLUTIONS

UK
GBC

UNEP
FINANCE
INITIATIVE

UniCredit

Università
Ca'Foscari
Venezia

vdp
VERBAND DEUTSCHER
PFANDBRIEFBANKEN
Association of German Pfandbrief Banks

VELUX

Volksbank
Banca Popolare

EeMAP CONSORTIUM MEMBERS

EMF | ECBC
EUROPEAN MORTGAGE FEDERATION
EUROPEAN COVERED BOND COUNCIL

Università
Ca'Foscari
Venezia

RICS®

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HOUSE OF FINANCE
SAFE
Sustainable Architecture for Finance in Europe

EUROPE REGIONAL NETWORK

WORLD GREEN BUILDING COUNCIL

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