



European Mortgage Financing Mechanism: Energy Efficient Mortgages Initiative

- ✓ Energy efficient Mortgages Action Plan (EeMAP)
- ✓ Energy efficient Data Portal & Protocol (EeDaPP)
- ✓ Energy efficient Mortgages Pilot Scheme

SEI Forum - Athens « "Energy efficiency financing in residential buildings"

Deborah Leboullenger, EMF-ECBC



How can banks play a game changing role in improving Energy Efficiency?

In the EU 28 there are...



510 million people



7498 MFIs and 188,109 branches



247 million dwellings

...of which

More than 350 million live under their own roof

Private financing

On average each branch serves around 2,700 people

more than 220 million dwellings were built before 2001



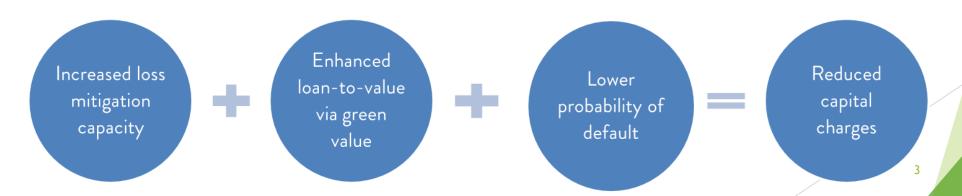


Objective & Underlying Business Case

The **ultimate objective** is a pan-European private bank financing mechanism, based on a standardised approach, to encourage energy efficient improvement by households of the EU's housing stock by way of financial incentives linked to the mortgage, and in this way support the EU in meeting its energy savings targets.

Independent from, but complementary to, public funds or tax incentives

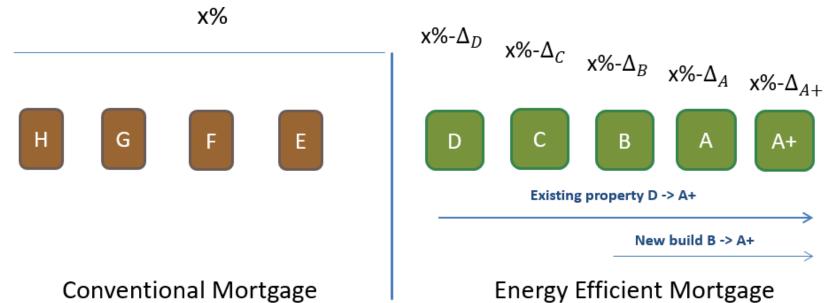
Underlying business case





Methodology - Financing mechanism

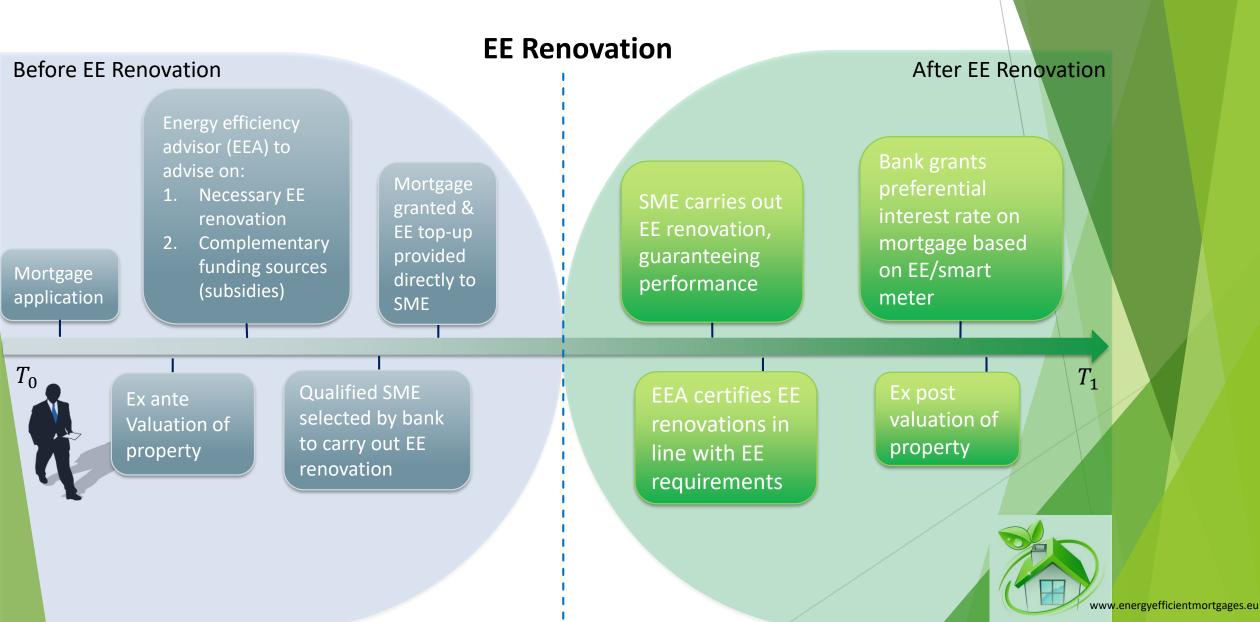
- Key challenge: to incentivise energy efficient investment in existing dwellings, which constitute bulk of EU housing stock
- Based on a set of EE indicators, lenders could offer:
 - New Builds: Discount in interest rate for new builds with energy rating A+/A or B;
 - Existing property: Discount in interest rate according to improvement in energy rating of property between D and A/A+



x%: mortgage interest rate EE delta: $\Delta_{A+} > \Delta_A > \Delta_B > \Delta_C$



Bridging Renovation Gap - In Practice





EE Impact on Properties?

Every time a house moves up a notch in energy performance, its price gets around the same boost that it would from an extra 10-15 m² in size

EE jump = Gain of €24,000 over 30 years:

■ A renovated house that moves from an 'E' to a 'B' notch in its energy performance certificate (EPC) will save an estimated €24,000 over 30 years according to an analysis of 365,00 house sales in Denmark last year

EE notch= €5,400/€7,400 *for an average* 100 m² *property:*

Each one-notch energy improvement from G-A is worth between €5,400-7,400 to an average 100 m² property according to a Copenhagen Economics Study for the Danish Energy Agency

Correlation between EE and sale price?

A European Commission assessment in 2013 found that in Vienna, a one-notch EPC improvement corresponded with an 8% rise in the sale price. In Flanders (BE), the equivalent of a one-notch upgrade was found to trigger a 4.4% rise in property value, while for Marseille and Lille (FR), the figure was 4.3%.



EeMAP Pilot Phase: Existing Data Analysis & Operational Test Phase

Phase 1: Analysis of Existing Data:

- Substantiation of business case
- Focus on correlation between EE and LGD & PD

Phase 2: Operational Test Phase:

- Deployment of valuation instructions & EE indicators
- Origination of EE mortgage product
- Potential involvement of EIB/EIF
- Data collection

June 2017

June 2018

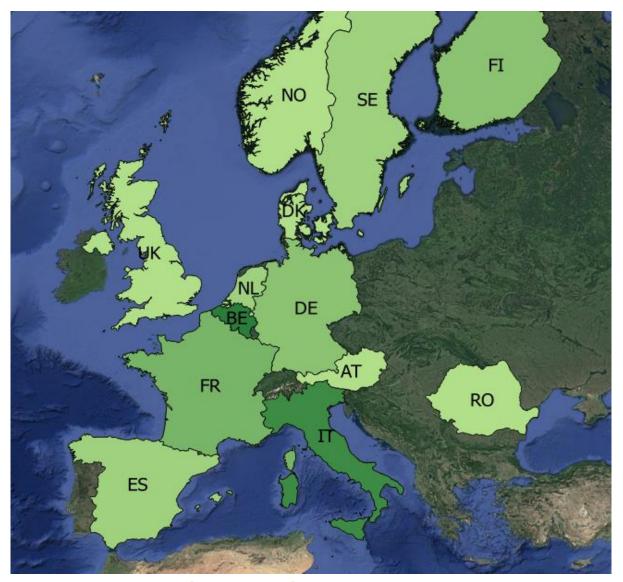
May 2019



The Energy Efficient Mortgage Process

Home Buyer	Energy Assessor	Valuer	Mortgage Lender	SME/Contractor
A. Application for EEM	B. EE audit & renovation planning*	C. Property valuation	D. EEM granted	E. Renovation carried out / performance guarantee by
	F. Post renovation EE audit*	G. Property revalued*	H.Preferential conditions granted I. EEM tagged J. Green Bond Issued	third party*

^{*}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.



Pilot Banks Coverage

This map displays latest state of commitments made by banks across the EU to EeMAP Pilot phase (definitive number and names to be announced on the 14th of June 2018 at Windsor (UK)

Annex





EeMaPP

































EeMAP Website: http://energyefficientmortgages.eu/

EeMAP 2-page Introduction:

http://eemap.energyefficientmortgages.eu/wp-content/uploads/2018/04/EeMAP-Two-page-introduction.pdf

EeMAP Emerging Analysis:

http://eemap.energyefficientmortgages.eu/wp-content/uploads/2018/04/Emerging-Analysis-1.pdf

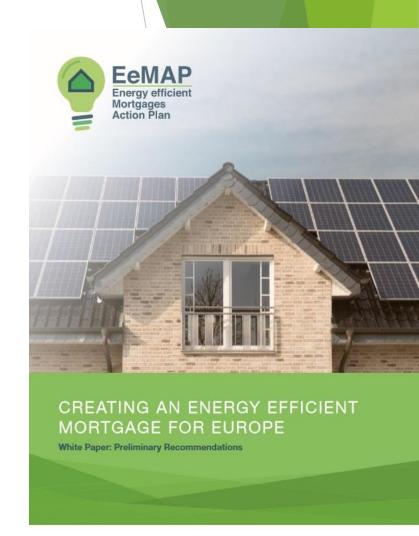
EeMAP Upcoming Events: Windsor, June 14th

http://eemap.energyefficientmortgages.eu/upcoming-events/



EeMAP White Paper

- Overview of current practices in relation to finance, energy efficiency indicators,
 property valuation and the impact of energy efficiency on risk management
- Key recommendations towards the creation of an Energy Efficient Mortgage product for Europe
 - 1. A simple & standardised framework for Energy Efficient Mortgage to help market entry allowing for national heterogeneity, with guidance on the underlying finance mechanism
 - 2. A clear definition of an Energy Efficient Mortgage to enable banks to differentiate between energy efficient and conventional mortgages in their risk management processes
 - **3. Energy efficiency in property valuations.** 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
 - **4. Simple and proportionate energy efficiency performance indicators**, with flexibility to take account of differences between current national approaches



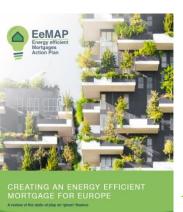


The EeMAP White Paper is available on the EeMAP website:



Five EeMAP Technical Reports

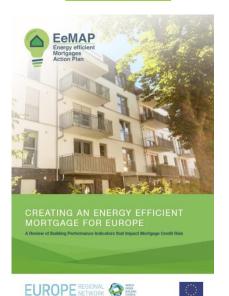
The research findings are detailed in five EeMAP Technical Reports:

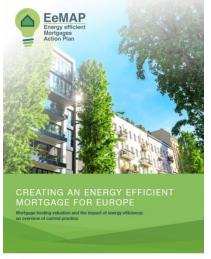


'Green' Finance

O EMF ECBC

Building Performance Indicators









Mortgage lending valuation

EE Impact on probability of default





Consumer Research Insights





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Incentive Chain

Borrower:

- Lower energy bills
- Energy Efficiency Behaviour
- Lower interest rate on mortgage for energy efficient property
- Free capital for retrofitting



Issuer/Originator:

- Access to funding cost advantages
- -Increased loss mitigation capacity
- Lower capital requirements as a result of lower PD
- Reputational benefits



SME/ Real Economy:

- SMEs active in the retrofitting of buildings and dwellings to become more energy efficient
- Juncker Plan



Society:

- Reduction in energy consumption
- Wealth conservation
- Reduction in greenhouse gas emissions



Investor:

- Diversification of investor portfolio
- Allocation of energy efficient investment buckets
- Green added value vs brown discount



Government:

- Pan European plan to stimulate energy efficient investment in residential property
- Improvement of existing housing stock
- Compliance with 1997 Kyoto Protocol COP21
- Access to quantitative & qualitative database on energy efficient mortgages & covered bothds





How to solve the 'chicken & egg' dilemma



Assets Liabilities

EE mortgages

collateral

EE bonds

- Covered Bonds
- Securitisation



European Investment Fund (EIF)

Investor Demand

National Promoting Banks: Green Purchase Programs



European Investment Bank (EIB)



Covered Bond Label: Sustainable Covered Bonds



	ISIN	Issuer	Initial Date of Issuance	Maturity Date	Face value*	Coupon	Syn.	Listed	Tapped	Ext.	EEA"	LCR***
0	ES0443307063	Kutxabank S.A.	22/09/2015	22/09/2025	EUR1,000,000,000	Fixed	Yes	Yes	No	No	Yes	2A

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Download Results (csv)

- (*) Please note that the face value of this bond has been converted into EUR values on the 15th of January of the current year (where the exchange rate protocol takes the ECB bilateral exchange rate on the last business day of the previous year) in order to facilitate the comparison across issuances and to increase the overall transparency of the website. Nevertheless, you will be able to check the original currency by directly clicking on the covered bond.
- (**) European Economic Area (EEA) or non-EEA. While all the non-EEA labelled programmes' quality standards will be fully aligned to the Covered Bond Label Convention, to Article 129 of the Capital Requirements Regulation (CRR) and to the definitions in the Liquidity Coverage Requirements (LCR) with the exception of being based in the EEA, i.e. they will present similar legislative safeguards from a qualitative and supervisory point of view to those in Europe, these bonds will present different characteristics, for example in terms of risk weights. Therefore, non-EEA Labels will be identified on the Label website by using a different graphic solution.
- (***) The issuer believes that, at the time of its issuance and based on transparency data made publicly available by the issuer, this bond would satisfy the eligibility criteria for its classification as a Level 1 or Level 2 asset in accordance with Chapter 2 of the LCR delegated act. It should be noted that whether or not a bond is a liquid asset for the purposes of the Liquidity Coverage Ratio under Regulation (EU) 575/2013 is ultimately a matter to be determined by a relevant investor institution and its relevant supervisory authority and the issuer does not accept any responsibility in this regard.
- Sustainable covered bond. A Covered Bond Labelled sustainable covered bond is a covered bond that is fully compliant with the Covered Bond Label Convention, and also includes a formal commitment by the issuer to use an amount equivalent to the proceeds of that same covered bond to (re)finance loans in clearly defined environmental (green), social or a combination of environmental and social (sustainable) criteria. Covered Bond Labelled sustainable covered bond programs are based on their issuer's sustainable bond framework which has been verified by an independent external assessment. The issuer strives, on a best efforts basis, to replace eligible assets that have matured or are redeemed before the maturity of the bond by other eligible

[Against this background, please note that the EMF-ECBC is currently working on market initiatives which will ultimately define European criteria for energy efficiency covered bonds and sustainability standards]