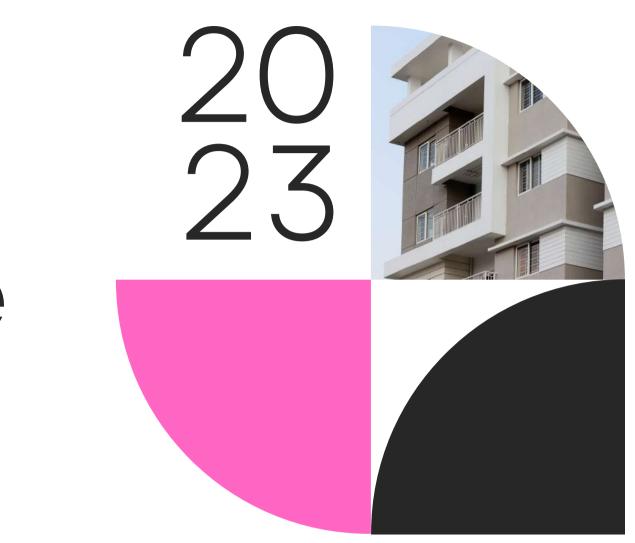
Engaging Retail Lenders in Home Renovation

RATEGY





Turning Sustainable Finance Commitments into Household Energy Savings and Climate Resilience

DEC 2023

Peter Sweatman, CEO Climate Strategy & Strategy

32 YEARS BLUE-CHIP FINANCE AND CLIMATE STRATEGY

32 years in finance and climate:

- JPMorgan
- Climate Change Capital
- Climate Strategy
- Energy Efficiency Capital Advisors
- Published 24 white papers on low carbon finance and innovation
- Long-term relationships with:
 - Bloomberg NEF
 - S&PTrucost(prev.)
 - ECF

Clients:





CS Group launched EE advisor in 2016:



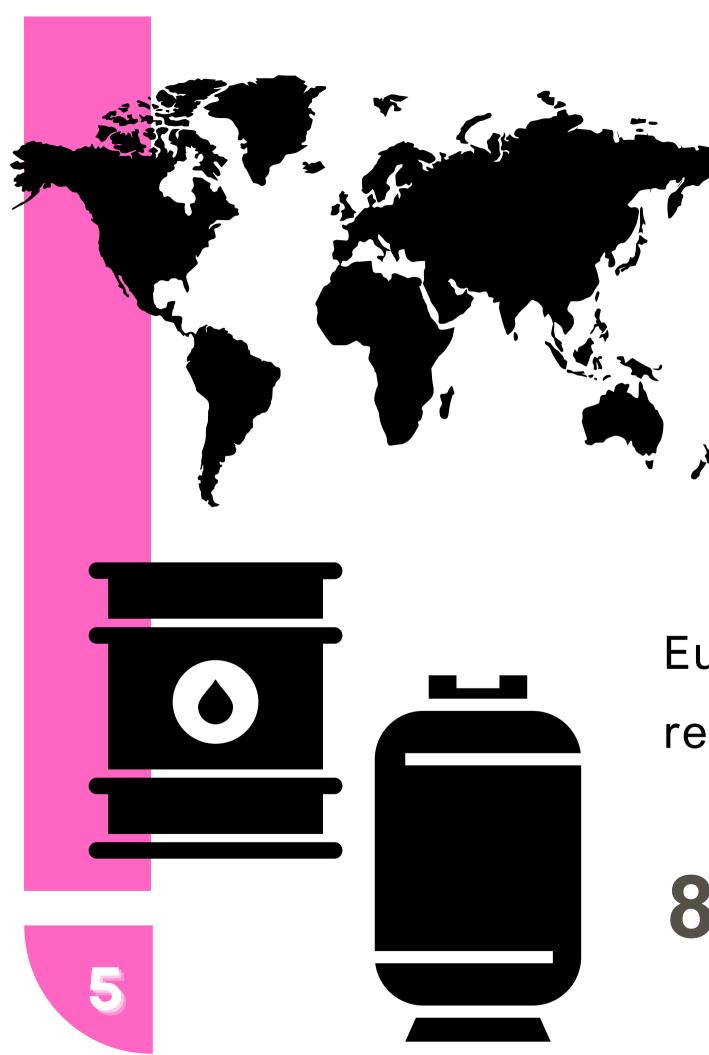






Finance

The Opportunity to align Building Renovation and Sustainable



in energy efficiency in 2023

7.1% of global GDP €7 trillion

- spent on subsidising fossil fuels is more than
- **10x** the **€582 bn** that was invested

- Europe imports nearly **60%** of its primary energy resources, a factor which is worse for fossil fuels.
- **83%** for gas, **97%** for oil, **70%** for coal



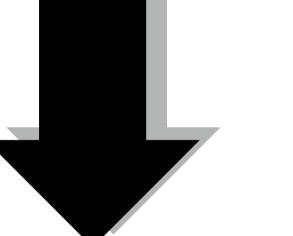
now pays more to import fossil fuels than was globally invested in energy efficiency in 2023

Annual investment in energy efficiency in the buildings sector worldwide from 2017 to 2023, in selected regions



Source: Statista. (2023)

From 2007 to 2020, final energy consumption in the EU reduced around 9%



From 2024-2030, the EU is pledged in law to deliver over 2x that reduction

• **11%** of EU buildings had some renovation in 2020

• Only **1%** of buildings have renovations impacting

their energy performance

0.2% optimise for energy efficiency



Practical examples of energy savings achieved

MS	Programme/ initiative	Description	Average energy savings per home
Lithuania	Lithuanian Public Investment Development Agency (VIPA)	Renovation of 50 multi-apartment buildings in Lithuanian cities	60%
Estonia	Estonian Business and Innovation Agency (Kredex)	KredEx offers loan guarantees with a state guarantee for the purchase and the energy renovation of Etonian homes.	44%
Germany	Pilot: Erste Energiesprong- Sanierung in bewohntem Zustand	Project sponsored by Interreg NWE's E=0 project and KfW for the energy modernization of 32 apartments in Bochum Germany.	50%
Spain	Orcasitas, Madrid	Community initiative where 40 out of 107 city blocks have been retrofitted. 26 additional blocks are currently undergoing renovation works.	60%
Italy	Cà Granda, Milan	Six residential towers were deeply renovated delivering energy savings, earthquake safety and resilience to heat waves.	62%
Spain	Navarre	EIB funded energy upgrades for 1,900 housing units.	70%

8

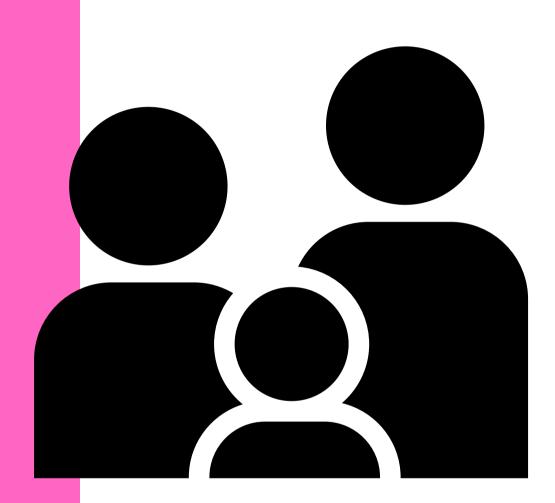


building renovations by 2030 with anticipated

An aggregate 2023-2030 renovation budget of around **€2 trillion** is the order of magnitude of the renovation investment challenge.

The EU Renovation Wave targets **35** million annual investment requirement of £275 bn

Electricity bills increased on average by 67% across EU MS from Jan 2021 to Jan 2023



(8% of Europeans), can't afford to keep their home adequately warm.

The hike in EU household energy bills will total as much as **€2 trillion**



An estimated **35** million EU households

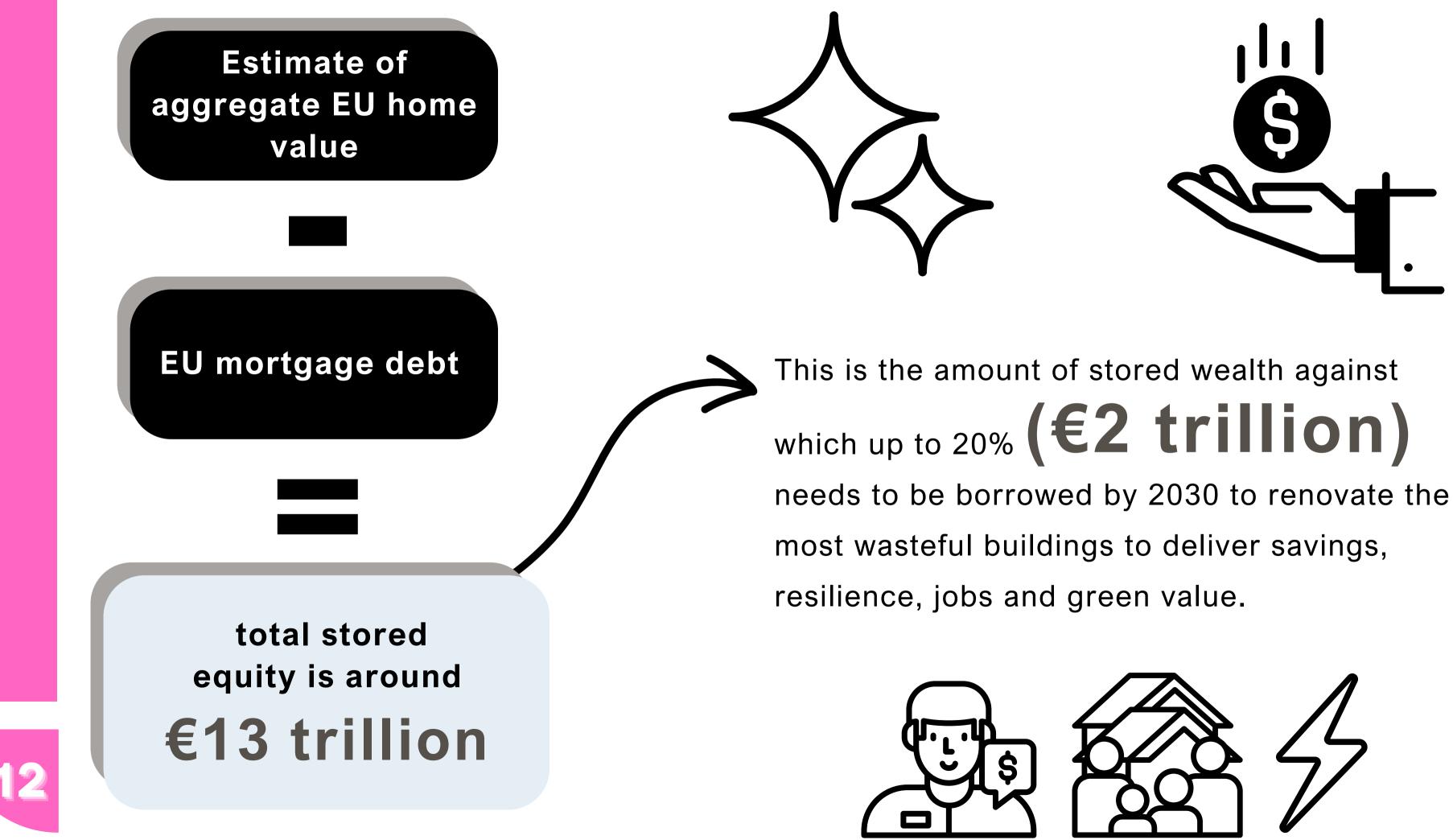


Context for a €2 trillion investment to Renovate EU Buildings

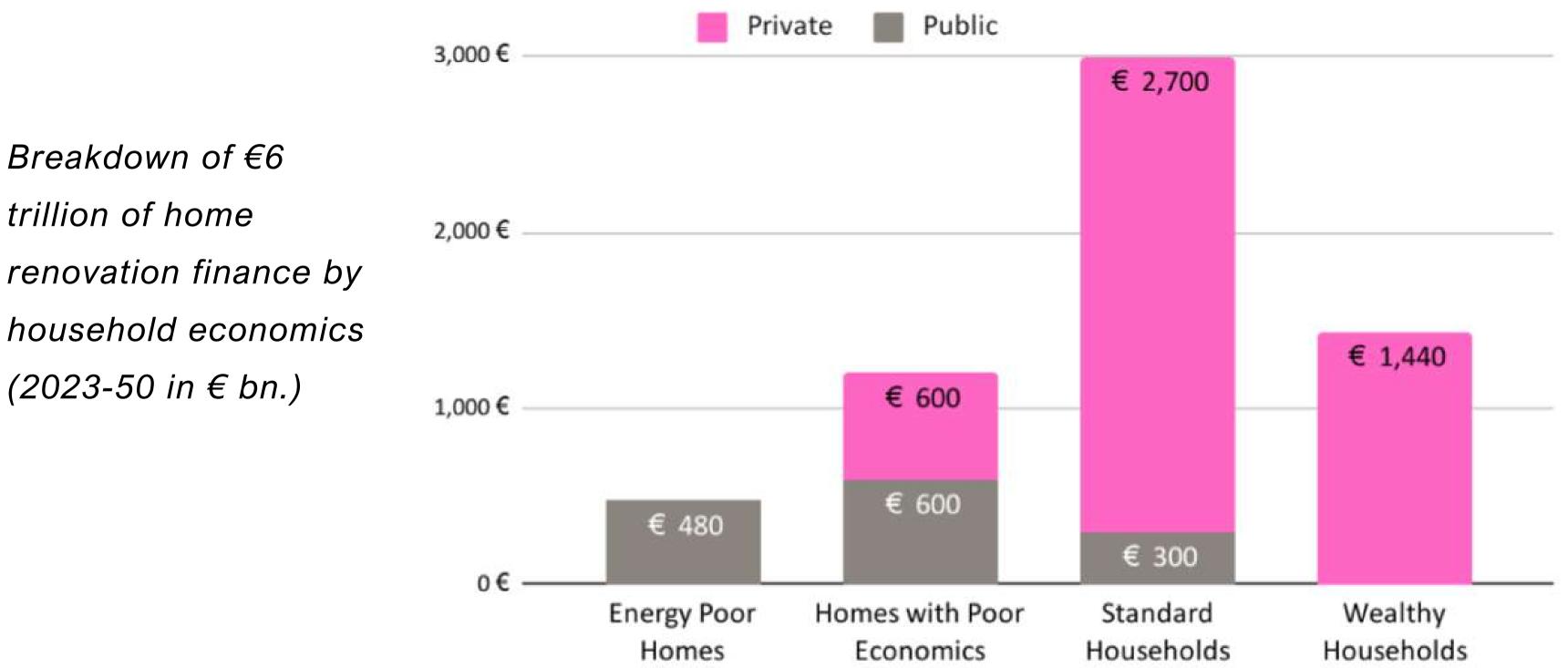
- EU residential buildings are worth around €20 trilion
- **71%** of people living in the EU live in a home they own
- 25 million of the 198 million homes in Europe are publicly owned
- EU27 residential mortgages are around **E7 trillion**



Institutional real estate investments in the EU27 are around £3 trilion







6 trillion to deeply renovate all EU homes and residential buildings...

The rough split of public versus private funding is 25/75

€500 billion of public funding

to lever

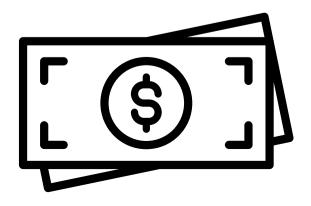
Guarantees, accounted for within that budget



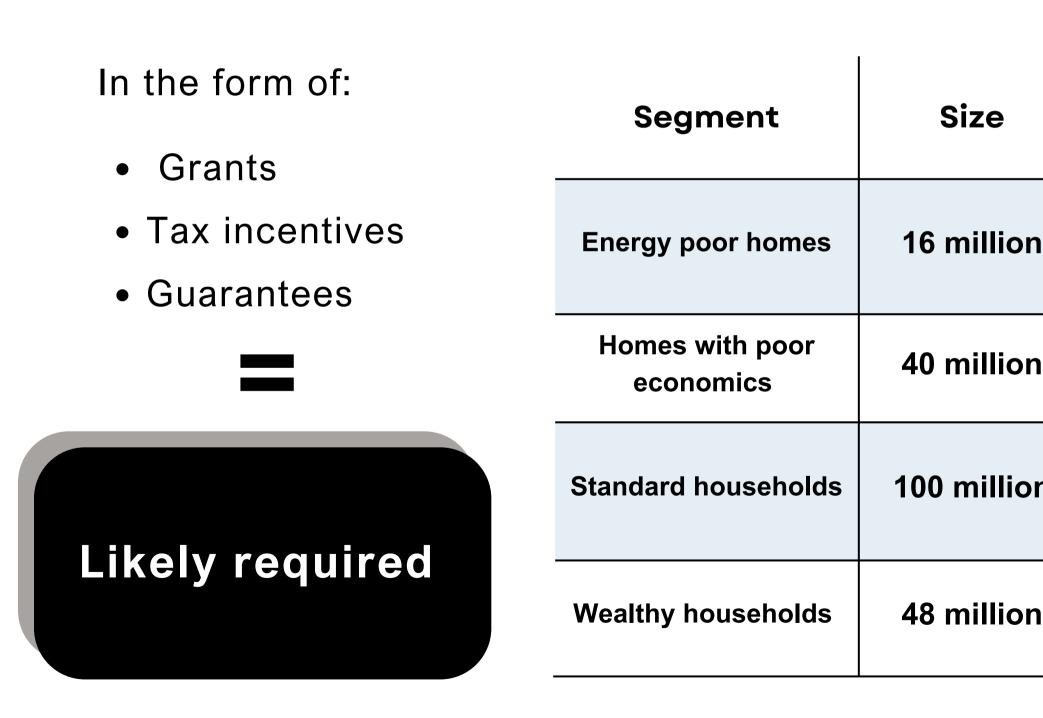


€1.5 trillion

of private finance by 2030



...of which €1.4 trillion (25%) of public support



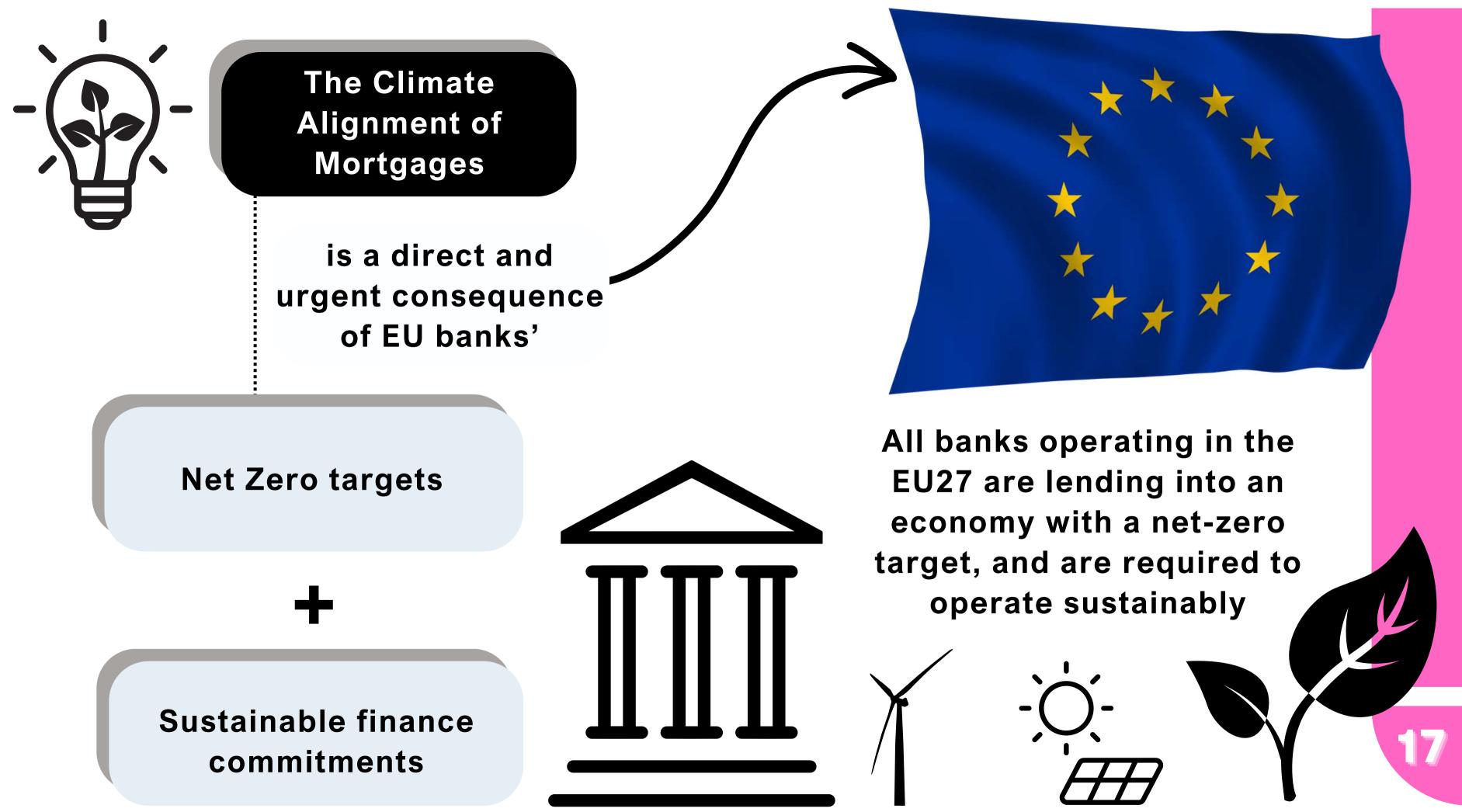
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	Financial instrument	
on	€480 billion social investment need)	
on	€1.2 trillion public-private investment	
on	€3 trillion mainly private investment	
on	€1.5+ trillion private investment	



Finance

How Retail Banks in Europe are Engaging in Sustainable



The Principles for Responsible Banking (PRB)

Launched in 2019 by the UNEP FI

- **325** current signatories = **€41 tn** in total assets
- **53%** (172 members) are Europe based
- Signatories are expected to align their portfolios with a 1.5°C pathway

Mortgage portfolio related actions:

- recording of data on:



• Signatories are expected to develop KPIs for portfolio adjustments with the monitoring and

• New green mortgages • Financing emissions targets

• PRB offers signatories a "Portfolio Impact Analysis Tool for Banks" to:

• Help banks comply with PRB's Principle 2 on Impact Analysis and Target-setting.



Net-Zero Banking Alliance (NZBA)

Launched in Q2 of 2021, acts as the climate-focused accelerator for the PRB

- Convened by UNEP FI
- **138** members. **70** are Europe based
- Represent **41%** of global banking assets ($\in 70 \text{ tn}$)
- Signatories must establish decarbonisation targets for residential real estate, within 36 months of joining.

Mortgage portfolio related actions:



• In Q4 2022, NZBA signatories indicated that for 65% of the sector focused targets, these covered around 80% of the bank's portfolios, yet the real estate subsector recorded one of the lowest coverages.

• Has in place a "Real Estate Working Group" focused the use of metrics, benchmarks, and data for bank decarbonisation efforts.

• NZBA is calling for governments to develop an international database for harmonised energy efficiency measurements in buildings.

Net-Zero Banking Alliance Germany (NZBAG)

Has developed the Climate **Action Portfolio Indicator** (CAPI)

- A separate initiative from NZBA
- CAPI helps FIs assess their portfolio alignment with the **Paris Agreement** climate goals

Mortgage portfolio related actions:

- - banks.





Net Zero **Banking Alliance** Germany

• CAPI includes sectoral transition pathways and KPIs provided at the loan portfolio level in a single alignment KPI.

• CAPI is compatible with PACTA, PCAF, or SBTi FI.

• Germany's **KFW**, has developed Paris-aligned sector guidelines for promotional finance for the building sector

• Drawing from the minimum requirements for buildings, defined according to the KfW Efficiency House and Efficiency Building standards used by **German mortgage**

Science-based Targets Initiative in the Financial Sector

Focuses on the target setting within the broader portfolio transition process

- As of Oct 2023, **77** European FIs have committed to SBTi netzero targets to be achieved by 2030
- **10** of them have approved targets

Mortgage portfolio related actions:

- - Asset-level data as much as possible
 - regional proxies.



SBTi intends to require measurement of buildings' embodied emissions when its members deem that robust data approaches are available.





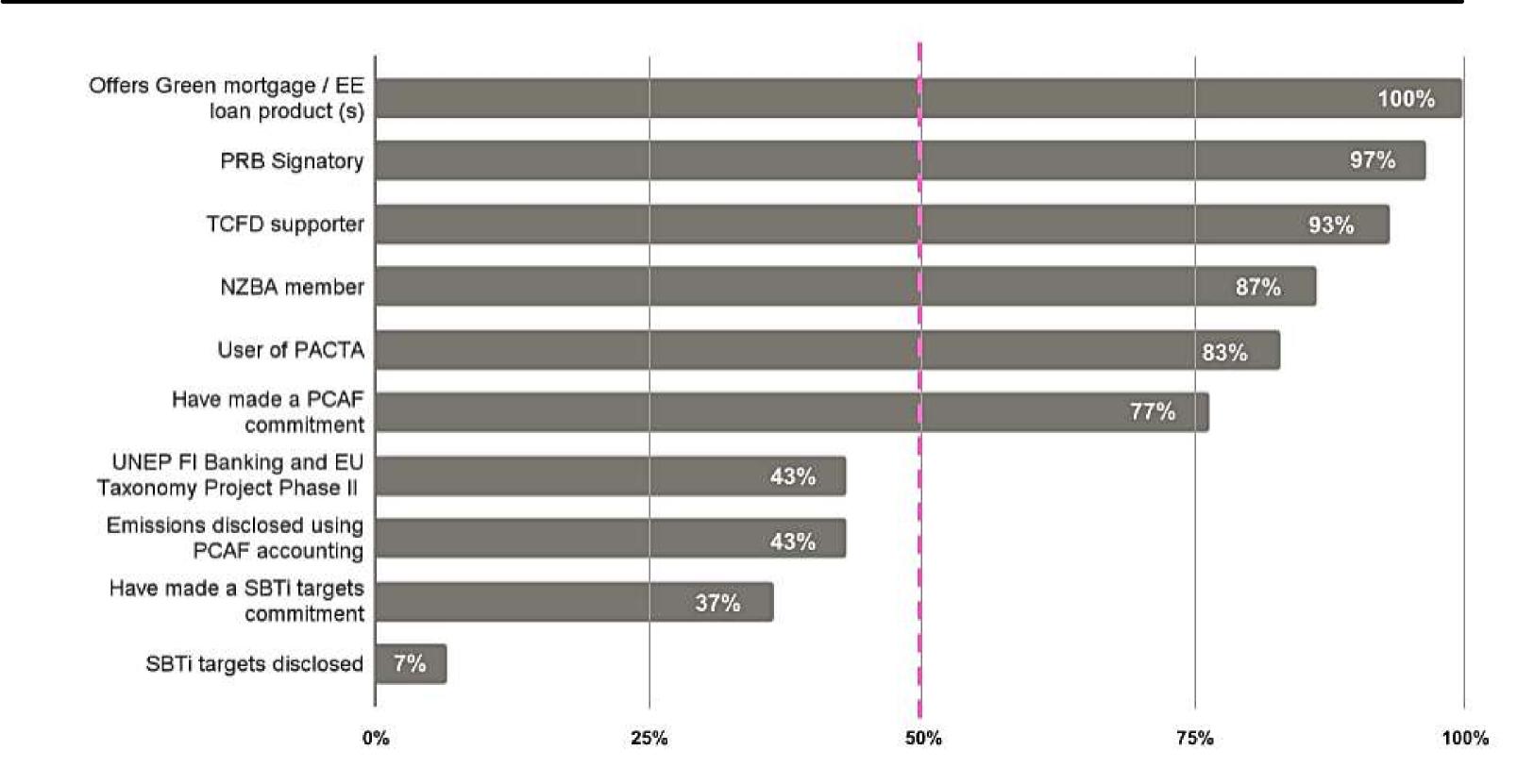


According to SBTi's Sectoral Decarbonization Approach

for mortgages, setting up science-based targets requires defining a baseline for emissions for the **bank's residential** mortgage portfolio. This calculation should rely on:

• In the event of data gaps, these can be filled with

Europe's largest banks and their affiliation to climate initiatives

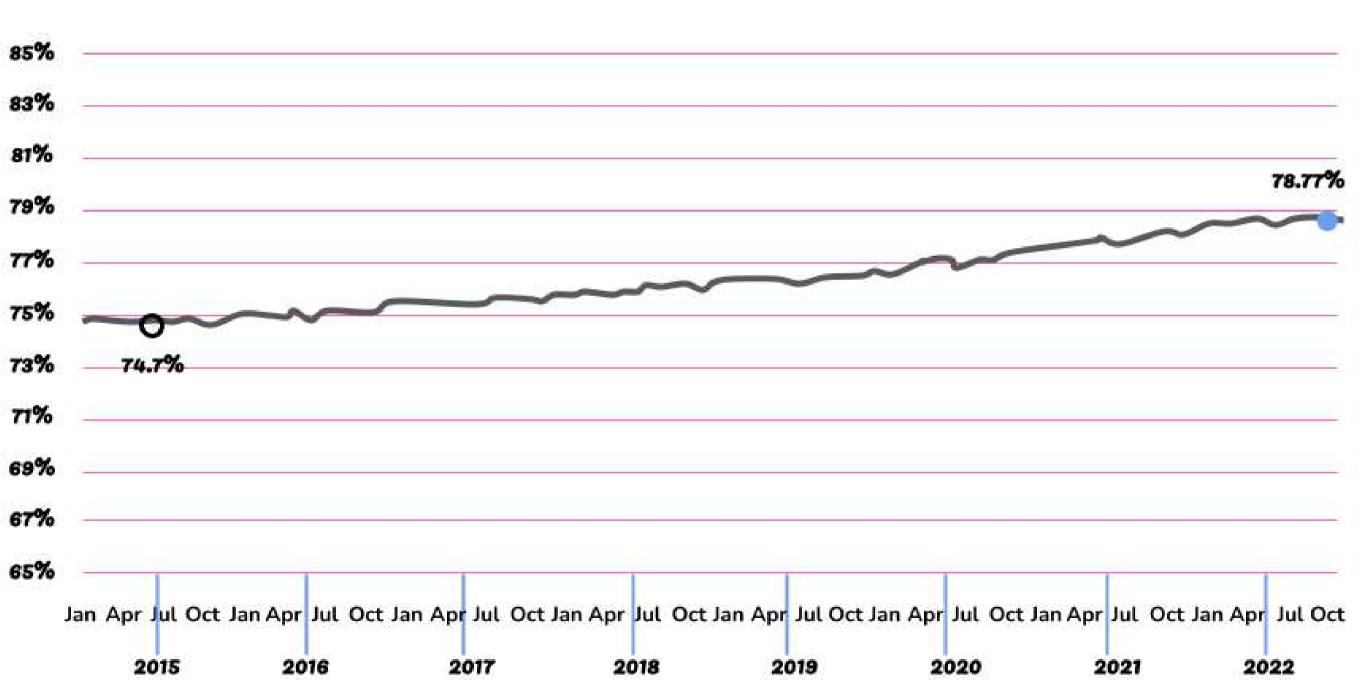




There is an Urgent Need to align Lenders' Mortgage Portfolios with the EU's Energy Transition

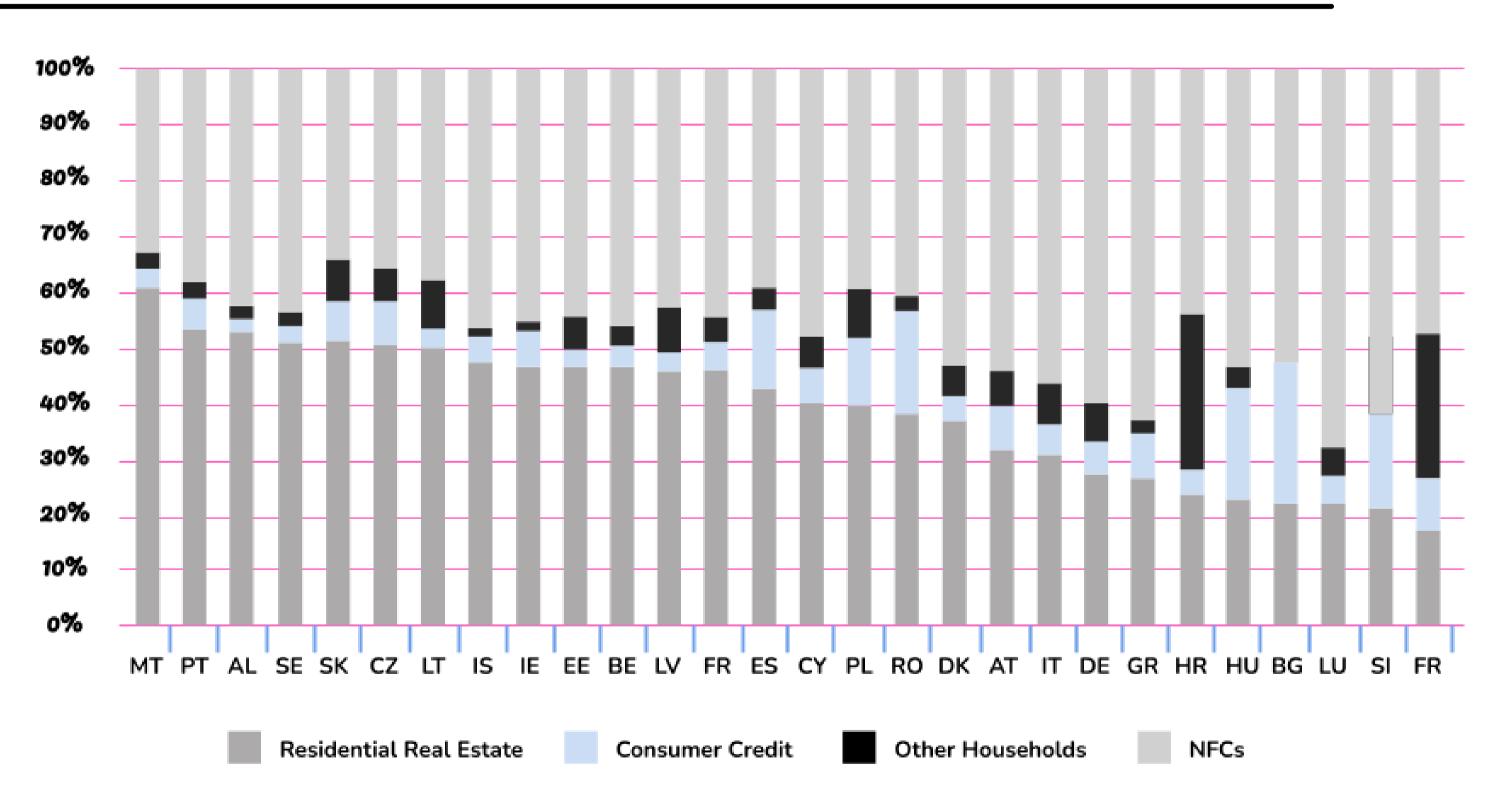
Mortgage as a percentage of loans to households in EU27 2015-2022

With 25+ million EU customers, mortgage lenders are the single most connected stakeholder group to Europe's buildings



The mortgage is the most widely used financing tool

Distribution of loans by segments by country - 2022 Data





Source: EBA (2023)

Green Mortgages: Incentives for the most efficient homes

According to the EU Taxonomy's technical screening criteria:

- For new build the home's primary energy demand needs to be 10% lower than legal requirements
- For an acquisition, an EPC Class A is required or proof that the building belongs to the top 15% of the country's building stock.

For EU Taxonomy aligned renovations:

- renovation.
- optimal potential.



• These must save at least 30% of the primary energy demand of the home, before the

• The Taxonomy's renovation criterion is lower than what many experts see as the technical or cost-

Issuance levels of green mortgages are surprisingly low

Energy Efficient Mortgage Label stats:

- Just 250,000 green labelled mortgages issued in aggregate by its members in recent years, totalling just over Euro 35 billion.
- Compared to the Euro 6-7 trillion mortgages outstanding.





Mortgage Portfolio Standards: A holistic tool to deliver net-zero alignment from EU Mortgage Lenders

Introduced as a voluntary regulatory tool in the Commission's December 2021 proposed recast of the EPBD

> Subsequently strengthened by the EU Parliament in its March 2023 recast proposal.

European Parliament 2019-2024



TEXTS ADOPTED

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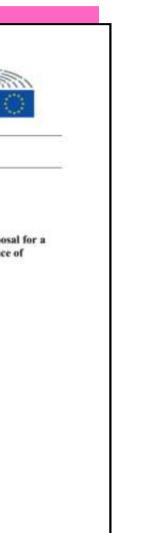
Energy performance of buildings (recast)

Amendments adopted by the European Parliament on 14 March 2023 on the proposal for a directive of the European Parliament and of the Council on the energy performance of buildings (recast) (COM(2021)0802 - C9-0469/2021 - 2021/0426(COD))¹

(Ordinary legislative procedure - recast)

The matter was referred back for interinstitutional negotiations to the committee responsible, pursuant to Rule 59(4), fourth subparagraph (A9-0033/2023).





Portfolio standards are proven and successful regulatory tools that have reduced transport emissions both in the EU and USA





Jan 2023, European Central Bank opinion on the EPBD recast

Calls out Mortgage Portfolio Standards:

- portfolio standards across Member States.
- issuances of financial and debt instruments, as these could:

 - lending and government support schemes

EN Official Journal of the European Union Ш (Preparatory acts) EUROPEAN CENTRAL BANK OPINION OF THE EUROPEAN CENTRAL BANK of 16 January 2023 on a proposal for a Directive on the energy performance of buildings (recast) (CON/2023/2) (2023/C 89/01)

C \$9/1

Introduction and legal basis

10.3.2023

On 13 December 2021 the European Commission published a proposal for a Directive on the energy performance of buildings (') (hereinafter the 'proposed Directive').

The European Central Bank (ECB) has decided to deliver an own initiative opinion on the proposed Directive. The ECB's competence to deliver an opinion is based on Articles 127(4) and 282(5) of the Treaty on the Functioning of the European Union (TFEU) and Article 25.1 of the Statute of the European System of Central Banks and of the European Central Bank (hereinafter the Statute of the ESCB), in particular since the proposed Directive relates to (a) the basic task to be carried out through the European System of Central Banks (ESCB) to define and implement monetary policy pursuant to Article 127(2) TFEU: (b) the ECB's tasks concerning the prudential supervision of credit institutions pursuant to Article 127(6) THEU; and (c) the ECB's contribution to the harmonisation, where necessary, of the rules and practices governing the collection, compilation and distribution of statistics in the areas within its fields of competence pursuant to Article 5.1 of the Statute of the ESCB. In accordance with the first sentence of Article 17.5 of the Rules of Procedure of the European Central Bank, the Governing Council has adopted this opinion.

1. General observations

- 1.1. The ECB broadly supports the proposed Directive, which aims to increase the rate and depth of building renovations in the Union, to improve information on the energy performance of buildings and to ensure that all buildings are in line with the Union's climate goals. The proposed Directive will not only contribute to the Union's climate goals, but will also support the Union's efforts to ensure energy security. By addressing barriers to renovation and setting targets towards improving the energy efficiency of buildings, the proposed Directive will contribute to reducing the Union's reliance on fossil faels and lowering demand for natural gas, Furthermore, it will make households and companies more resilient to energy price sarges by lowering energy consumption of buildings and will, in the medium to long-term, help reduce price sensitivity to volatility in Sossil fael prices. In addition, the proposed Directive brings more certainty to the pace and timeline of the Union's sustainable transition, in a manner that can be taken into account by credit institutions and financial institutions in their decisions on portfolio allocations and medium-term financing
- 1.2. The ECB welcomes the proposed Directive's aim to improve access to energy performance certificates (EPCs) across the Union. The proposed measures would ensure full access to EPCs for financial institutions, addressing the significant challenges regarding access to this information that credit institutions, in particular, and financial imititutions, more generally, are currently facing. These measures would allow credit institutions and financial institutions to improve the climate-related transition risk assessments of their real estate assets. Such improvement is

(1 COM(2023) 802 final

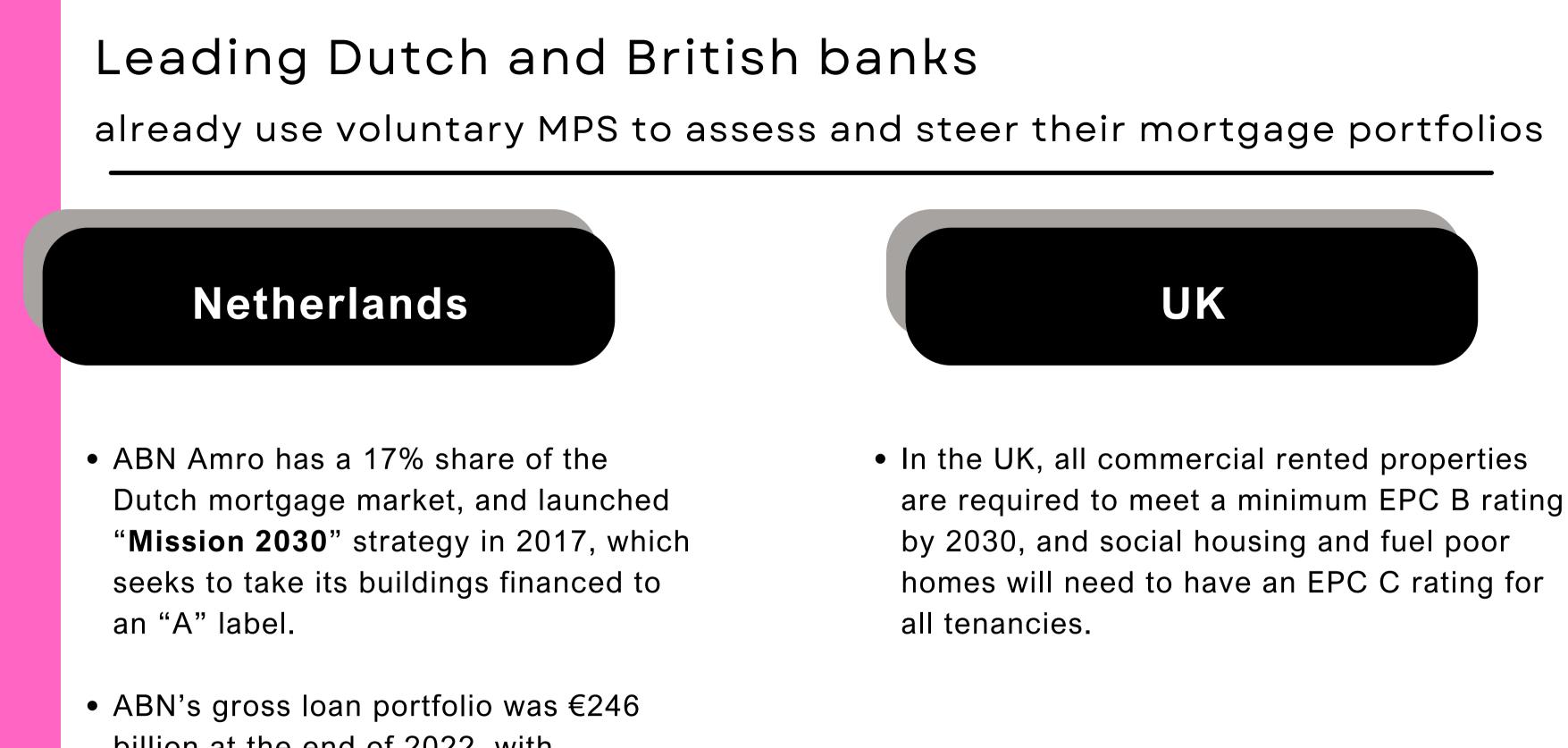
More detailed minimum requirements would harmonise the mortgage

• The design of **mortgage portfolio standards** ought to be readily usable in

 Enable cross-border investments into energy performance-enhancing mortgages – also in the context of the Capital Markets Union.

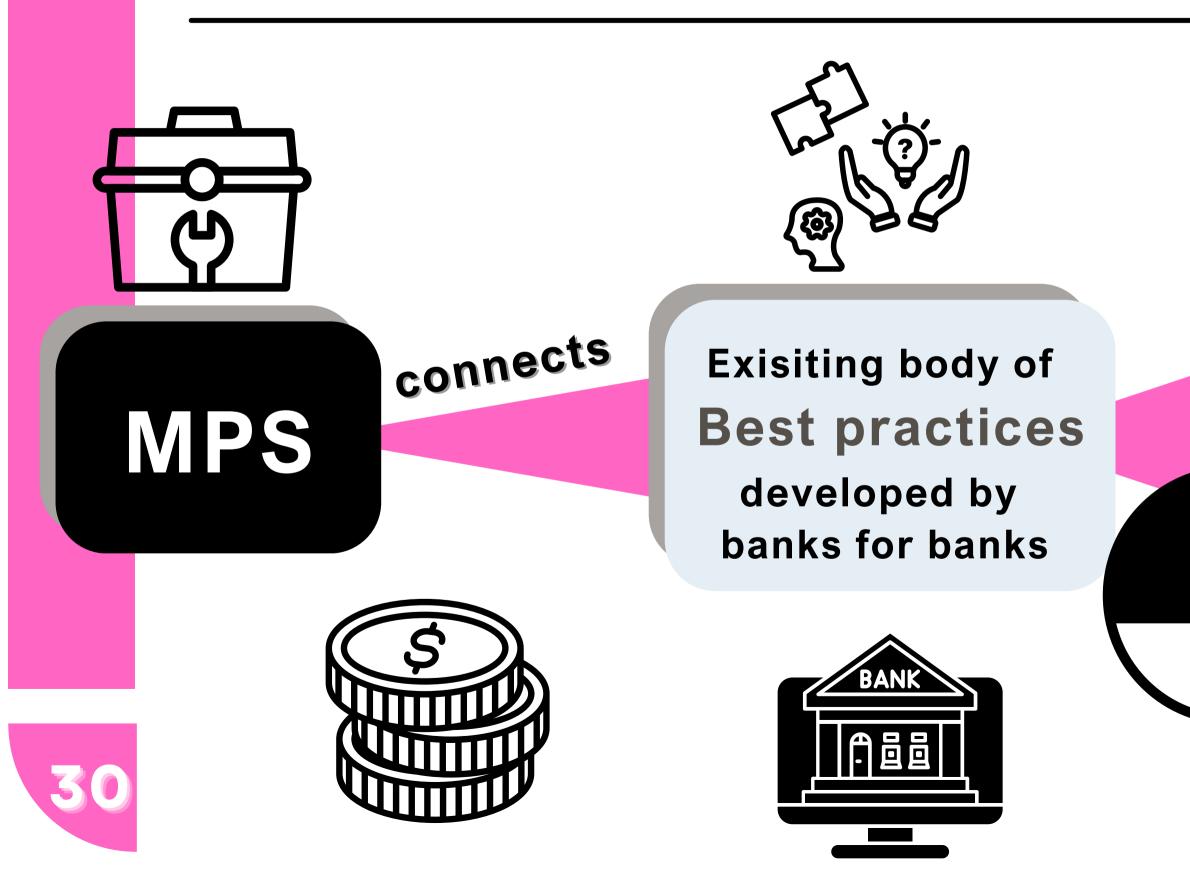
• Maximise the contribution of financial markets to reduce reliance on bank

• Mortgage portfolio standards ought to become increasingly stringent over time, mirroring the improvement of average EPC levels of real estate assets.



billion at the end of 2022, with residential mortgages accounting for over 60% of its loan book.

A mortgage portfolio standard is an impact analysis tool for banks



the critical need to align mortgage portfolios



tO

address the potential for climate risk and stranded real estate assets in the energy transition

Top 30 European banks (by assets) and the climate alignment of their mortgage portfolios



12 top lenders (40%)

Nearly all of the remaining banks are some way through a process that involves components or the entirety of a portfolio alignment.



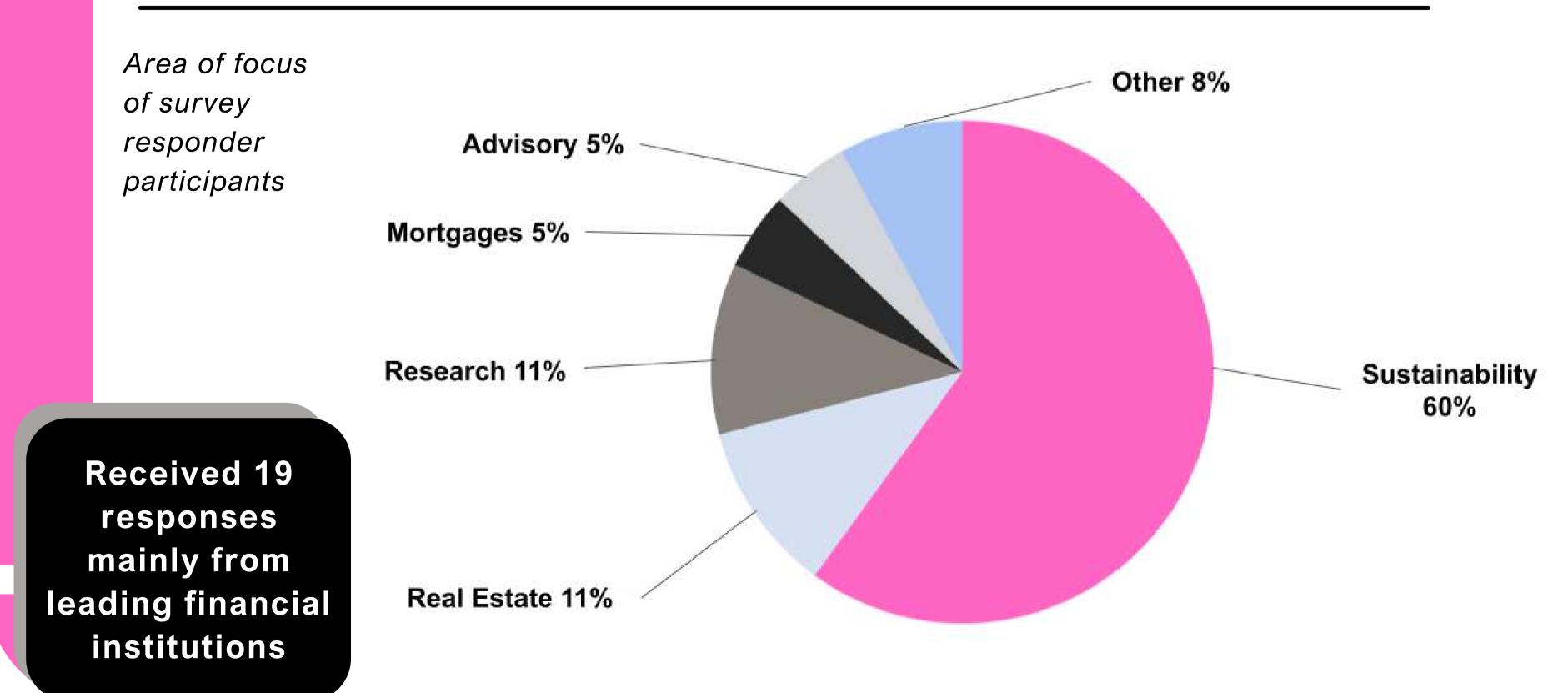
Already apply a form of Mortgage Portfolio Standard



From Net-zero targets to Home Renovation

Insights drawn from a Retail Bank Questionnaire on Approaches to Sustainable Finance for Buildings

Insights drawn from a Retail Bank Questionnaire on Approaches to Sustainable Finance for Buildings

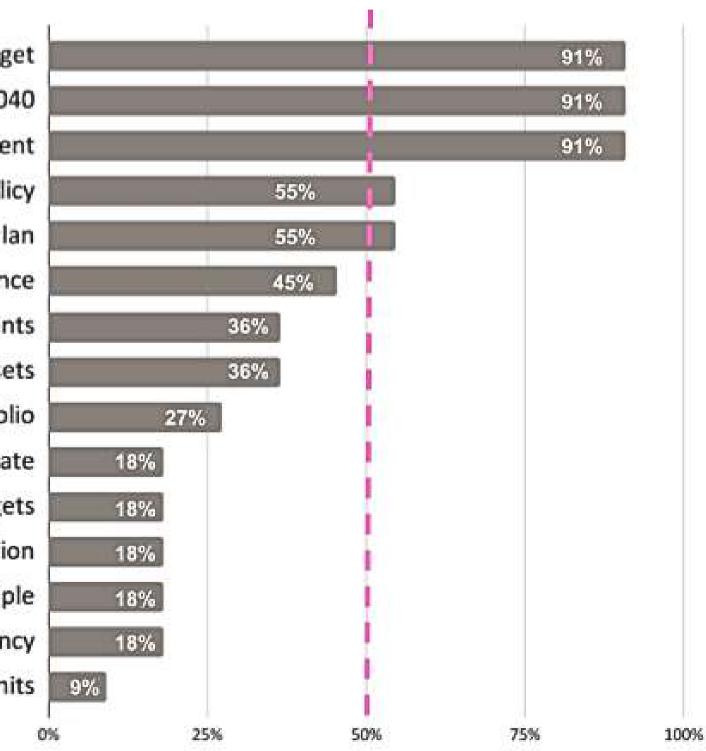


Understanding the impact of Bank Net-zero and other Sustainability Targets

Observed implementation of climate targets and/or commitments

Net-Zero Emissions Target Interim GHG reduction targets by 2025, 2030, or 2040 Decarbonisation objectives per business area/ portfolio segment Fossil-fuel financing exclusion policy **Climate Transition Plan Targets for Green Bond issuance** Do No Significant Harm commitments EU Taxonomy alignment objectives for eligible assets Specific decarbonisation targets relating to mortgage portfolio Climate financing target in \$bn by a defined date Renewable energy financing targets Target Green Asset Ratio (GAR) - EBA definition Energy Efficiency First Principle Safeguards which include reference to energy or resource efficiency Financed emissions limits

Just 27% of respondents had specific targets for their mortgage portfolio



Initiatives which support banks operationalising high-level decarbonisation commitment

Observed affiliation/subs cription to climate initiatives

Science Based Targets initiative (SBTi)

Net-Zero Banking Alliance (NZBA)

International Capital Markets Association (ICMA) Green/Social/Sustainability Bond Principles working groups

Glasgow Financial Alliance for Net Zero (GFANZ)

Partnership for Carbon Accounting Financials (PCAF)

Paris Agreement Capital Transition Assessment (PACTA)

UNEP FI Banking and EU Taxonomy Project

Principles for Responsible Banking

IIGCC's Property and Real Estate Working Group

Transition Pathway initiative (TPI)

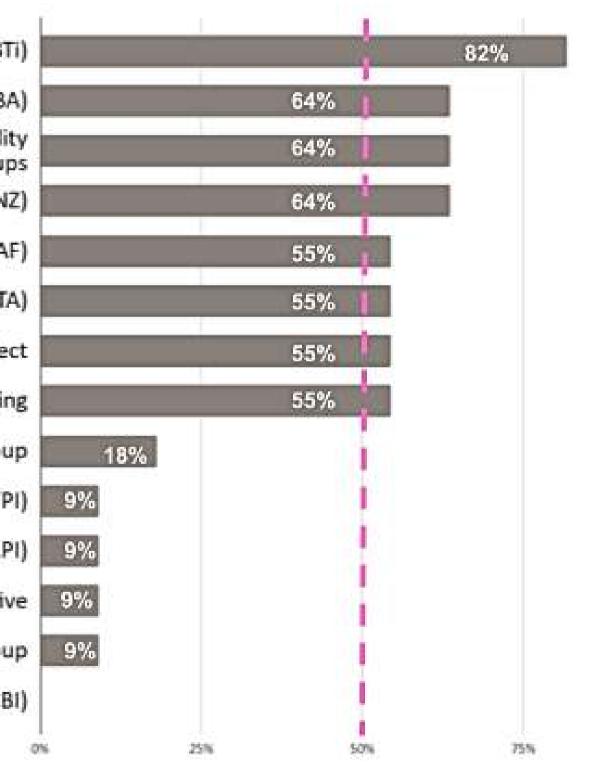
NZBAG's Climate Action Portfolio Indicator (CAPI)

EMF's Energy Efficient Mortgage Initiative

IIGCC Banks Working group

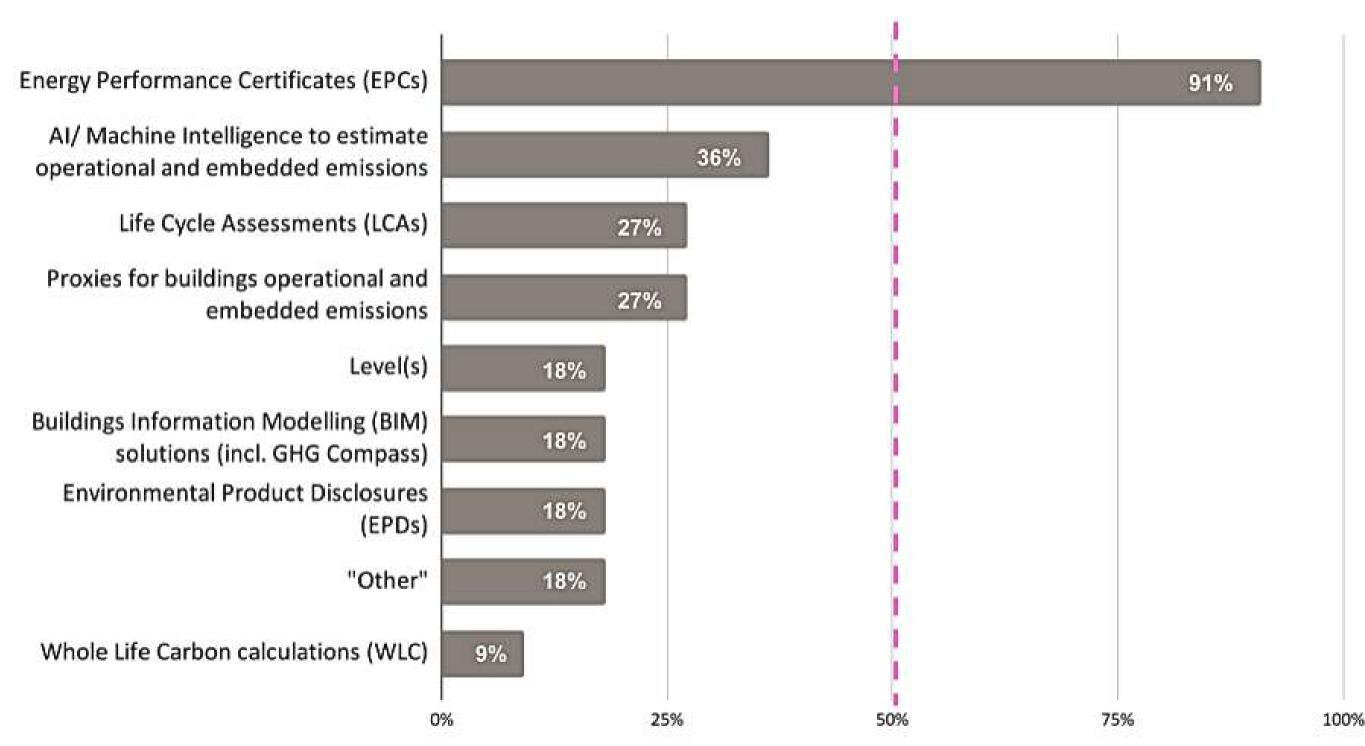
Climate Bonds Initiative (CBI)

Over 80% of responders are working with Science Based Targets Initiative



EPCs are only available in a minority of existing buildings across the EU

Measuring lifecycle performance of buildings and their contribution to climate change

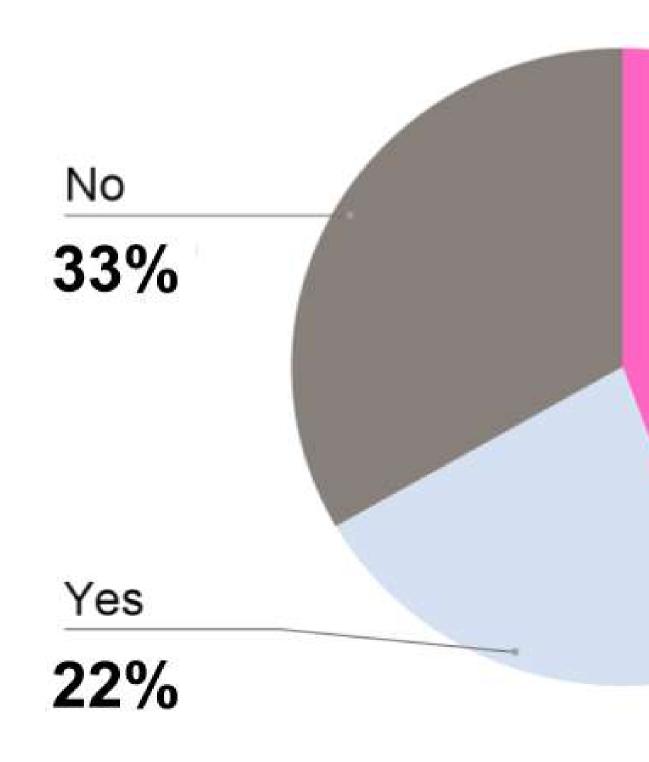


Over 90% of respondents rely on **EPCs to provide the** information they store on the buildings against which they lend

How Banks are Implementing Mortgage Portfolio Standards (if they are)

Are you aware of Mortgage Portfolio Standards?

Over the last three years, it has become clear that a MPS - or equivalent mechanism - is required to align a lender's mortgage portfolio with its netzero transition.



Yes, and have been actively following its progression



Motivations for Bank Promotion of Building Energy Renovation

Renovation drivers for banks to promote client building renovation

Meeting regulatory targets

Reducing Climate Risks

"Greening" the outstanding mortgage

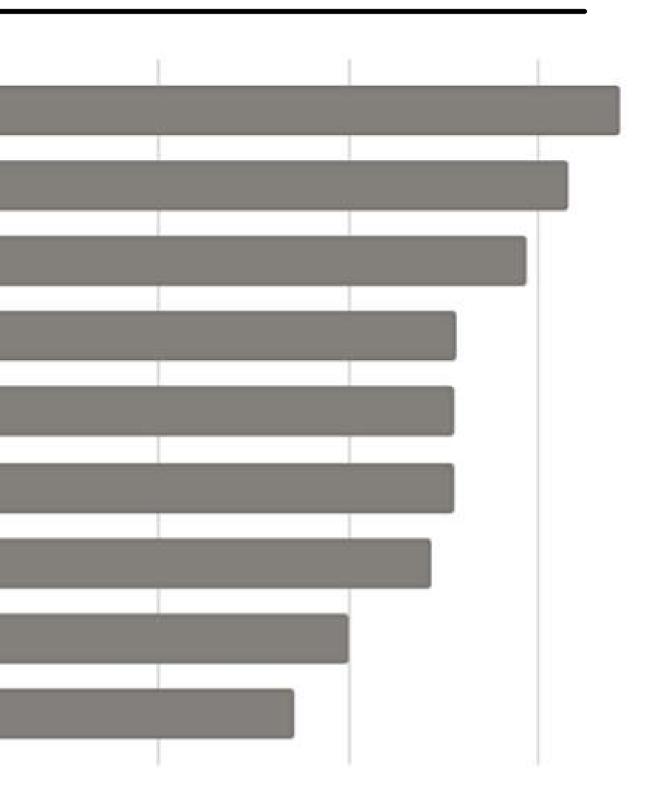
Improving the value of the underlying building Improving the Green Asset Ratio (GAR) or EU Taxonomy portfolio alignment **Delivering Climate/ESG/Sustainability** Targets Improving Credit Risks and Reducing **Defaults & Arrears**

Improved risk-capital regulatory treatment

Earning Structuring and Distribution fees

(Voting was done with responders scoring "importance" from High to Low)

The main driver for mortgage lenders to promote energy efficient renovations to their clients is to meet regulatory targets and reduce climate risks.



EPCs remain the leading source of energy performance information connecting to mortgages

Data sources most important to implement Mortgage Portfolio Standards

Energy Performance Certificate

Energy data provided by a utility/ energy supplier

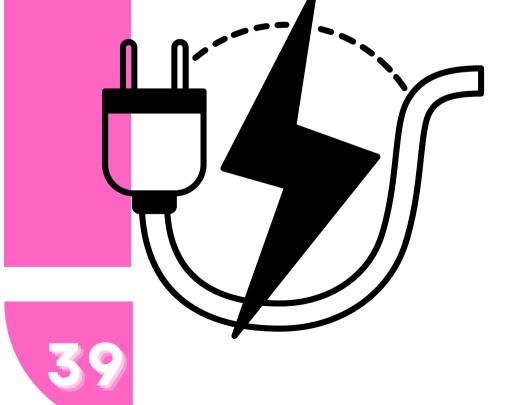
Data provided by a technical assessor or building inspector

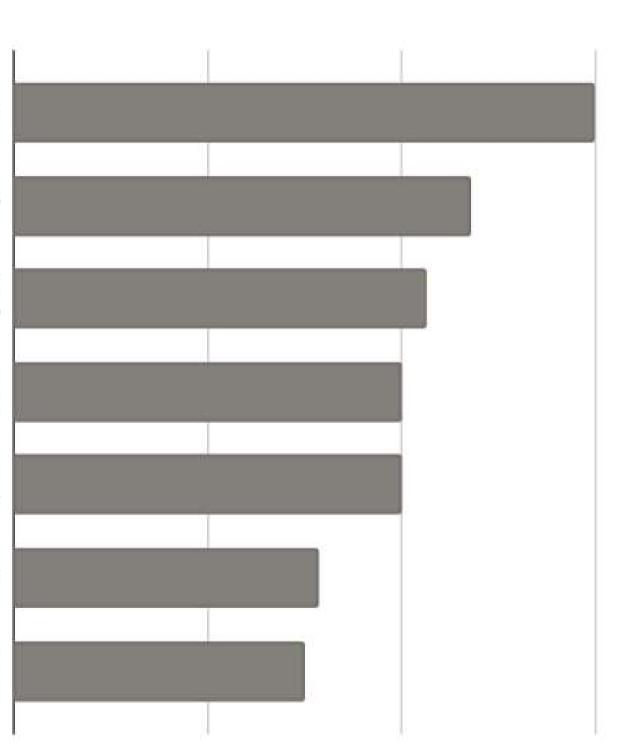
Proxies created from real data taken from Land Registry (or local equivalent)

Basic estimates based upon age of build and structural considerations

Real-time data from Smart Meters

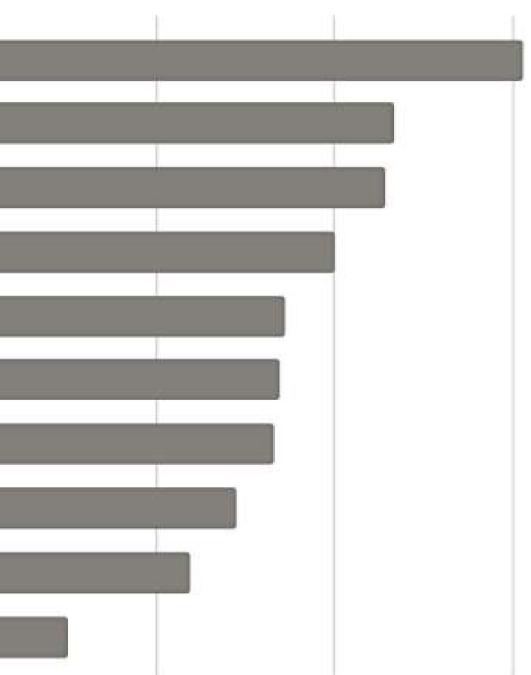
Proxies built from 3D-modelling and AI/Machine Learning & multiple sources





Non-financial drivers that would create an environment that stimulated demand for EE renovations

	Minimum Energy Performance Standards (hitting min-EPC levels by sector by year) An EU Renovation Ioan offering most attractive funding available Improved Energy Performance Certificates	
Complimentary non-financial drivers to support MPS-performance	Tax deductibility of deep renovation works Green mortgages	
	Upgraded real-time data from Smart Meters	
by banks	Upgrading the "worst 15%" energy performing buildings in each sector Improved buildings passports, logbooks and other digital tools	
	Resolving owner-tenant interest miss-alignment Improved AI/ Machine Learning techniques (for customers)	

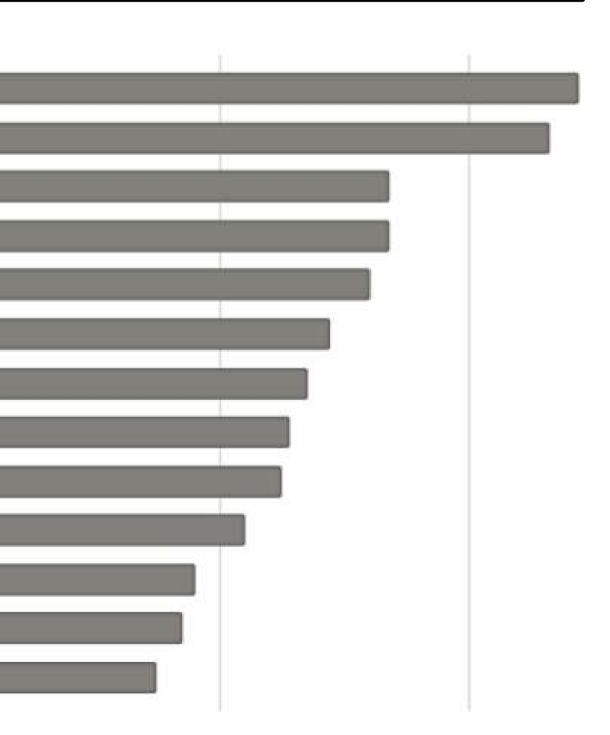


Driving the Demand for Renovation from the lenders' perspective

Why buildings owners would borrow money to renovate their home/ building?

The increase in energy prices has increased owners' interest in energy efficient renovations to increase resilience to energy price shocks.

Cost savings from lower energy use Protecting against high energy prices (aka resilience) Higher value of building (due to EE) Future-proofing home (within existing renovation) Modernising home (as a component of deep renovation) Not falling below minimum energy performance to rent Improved comfort of home To reduce personal impact on climate change Compliance with national standards (and future MEPS) Improved accessibility (when linked to energy renovation) Green label for building Health benefits Being seen to be environmentally aware



Social Considerations for Mortgage Portfolio Standards

Public support to enable low income and elderly households to renovate is critical to the delivery of a netzero pathway for a Mortgage Portfolio Standard.



If a recast EPBD or local standard causes low energy performing properties to lose value then those owned by vulnerable people must have their value loss made-up for through a combination of grants and other public renovation actions or instruments to enable those affected and poorer communities to renovate to recover that value.



Mandated energy standards for properties will result in greater renovation, yet low income people need financial support and guidance to take the initial step to renovate their homes.



Clients seeking to improve the energy efficiency of their homes may exceed their mortgage effort rate and this can limit their access to renovation loans, without guarantees or other public support.



New Public Renovation Finance Instruments catalysed by the Buildings Directive

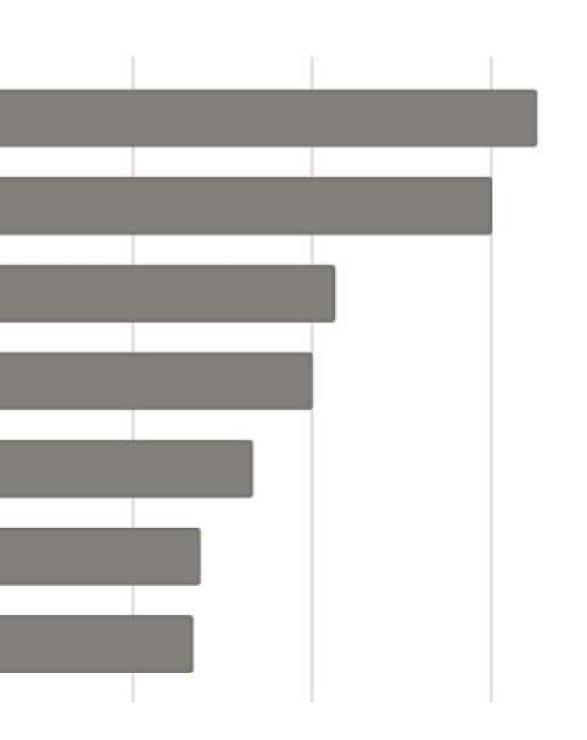
Ranking of selected renovation products with "ease of operation"

Two thirds of those surveyed felt that the addition of an EU Renovation Loan in the recast Buildings Directive made sense Traditional mortgages (just covering EE works as well) Renovation Loans (benefitting from a public guarantee) Regular consumer loans (just for renovation purpose) Soft loans issued by a public bank (but distributed via retail)

EIB designed product like PF4EE

Green mortgages

Grant + traditional private loan



Building the "Ideal" **Public-Private Renovation Loan**

Ranking of EU Renovation Loan components by stakeholder

Having an "ultra-low" interest rate that is independent of the building owner's credit score is a critical feature for all stakeholders

Stakeholder					
Rank	Customer	Originator	Government (EU/ MS)		
1	Ultra-low interest rate (same for all building owners)	EU Guarantee	Ultra-low interest rate (same for all building owners)		
2	Zero-coupon structure (paying compound interest at maturity)	ECB TLTRO liquidity facility eligibility	Only available for deep renovations (saving >50% energy)		
3	EU Guarantee	Offered through an accredited contractor	EU Guarantee		
4	30 year maturity	Ultra-low interest rate (same for all building owners)	ECB TLTRO liquidity facility eligibility		

The EU Renovation Loan was designed to apply to the broadest possible set of owners and buildings

Identification of Renovation Loan target stakeholder by Dwelling Segment

Fls were asked to provide an assessment of the EU Renovation Loan's applicability by "best fit" against the following types of building owner and three building types

Dwelling Segment					
Rank	Detached (or semi- detached) Single Family Home	Multi-family apartment block (eg. co-op)	Commercial Building		
1	Energy poor household (>10% income on energy)	Average family	Single employed		
2	Single employed	Energy poor household (>10% income on energy)	Social housing landlord		
3	Average family	Private landlord	Private landlord		
4	Private and Social housing landlords	Tenant	Tenant		

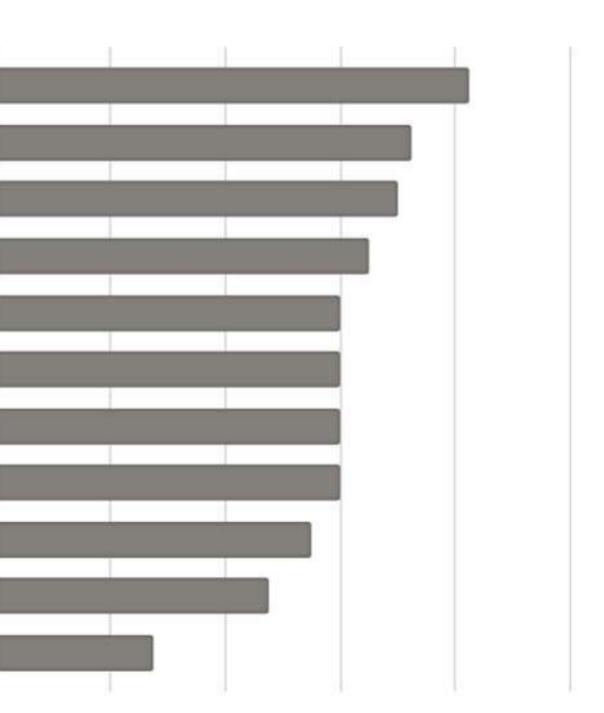
key concerns of originators of renovation loans can be addressed through the right structure of the loan itself

Ranking of perceived risks to ERL distribution from originator perspective

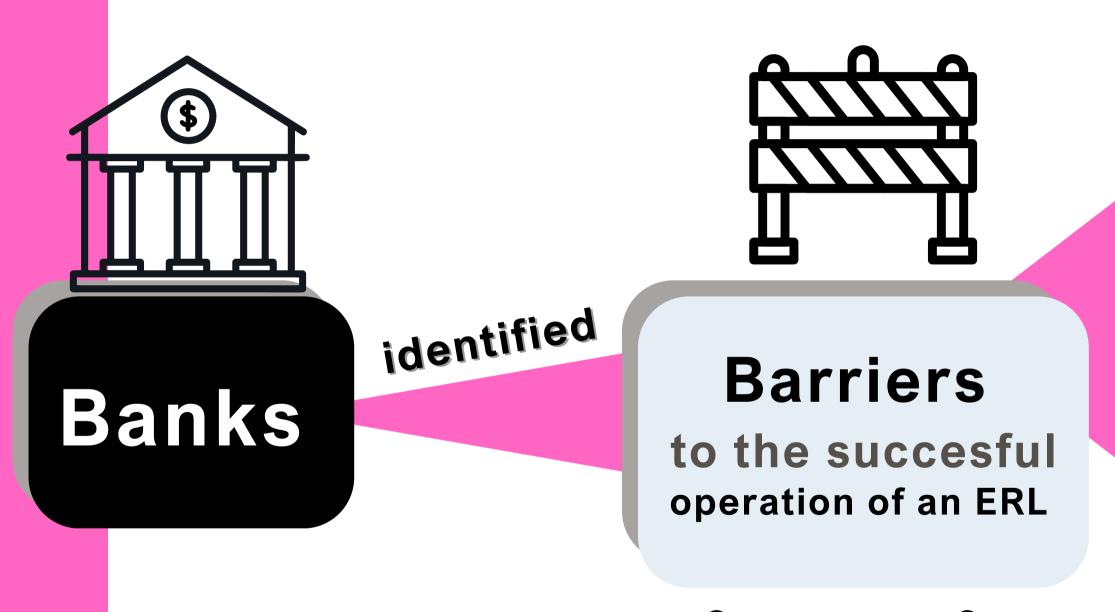
Increased indebtedness of customer Customer possibility to default Risk of higher capital costs Technical risk of poor quality works Risk of loss-making operation (low demand/ low profit) High costs to promote and execute Administrative risk (internal controls) Risk of excluding vulnerable communities Risk of not delivering energy savings Reputation risk with customer Greenwashing risk

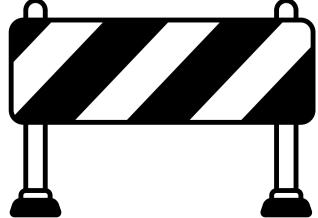
(Voting was done with responders scoring "importance" from High to Low)

Increased indebtedness can be addressed through an EU Guarantee, along with increased potential to default which should have reduced given energy savings.



Biggest barrier to the successful operation of an EU Renovation Loan





Lack of access to accurate EPC data and energy databases

The creditworthiness of homeowners

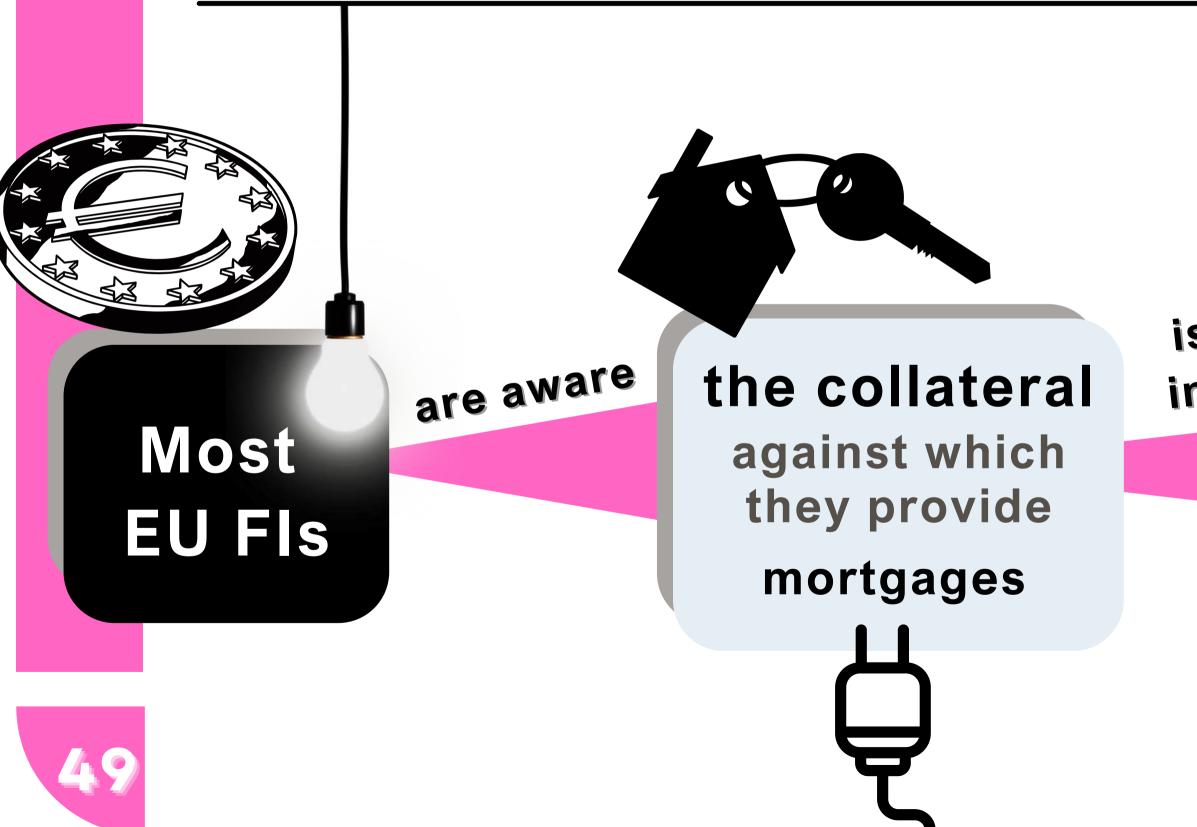
Lack of Government attention on renovation

A lack of evidence of increased property value due to energy performance improvements



Conclusions and Recommendations

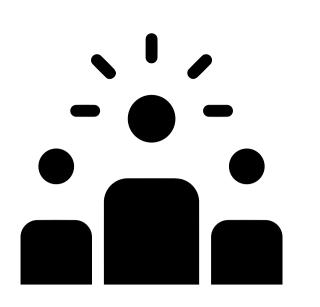
Mortgage lenders must identify the "low hanging fruit" of the worst performing buildings



he berforming buildings **And Control**

is largely inefficient

Will fall out of alignment with the net-zero emissions pathway at some point



Leadership in offering renovations to mortgage clients

has largely been among lenders with

Voluntary forms of mortgage Portfolio Standards

Science-based emissions reduction targets

or in countries with MEPS

Fls who have been able to make renovation finance programmes work

have relied on:

Standards

Contractor accreditation

Improving technologies

Sophisticated Teasurement tools and Al

FIs implementing climate risk and mitigation measures, portfolio by portfolio

Understand

the highly material risk of inaction in mortgages

+ are aware

There is a limited window of opportunity

to work with Governments to jointly address and deliver shared objectives

Member States must set national minimum energy performance standards that require building owners with the buildings that waste the most energy to renovate them in a given timeframe.

This must be supported by committed, long-term public funding instruments and technical assistance.







Introduce a new EU-level instrument to help tens of millions of homeowners who can renovate but don't have access to attractive finance







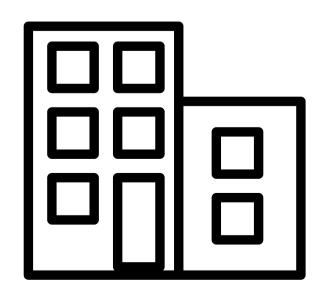
Position Mortgage Portfolio Standards as a voluntary tool for Member States to use to better engage mortgage lenders and **increase** National Buildings Renovation ambitions







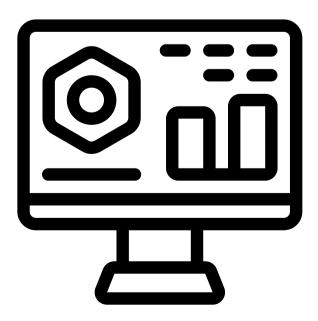
Promote pragmatic solutions to address the data quality and availability issues relating to EU buildings renovation



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Engaging Retail Lenders in Home Renovation



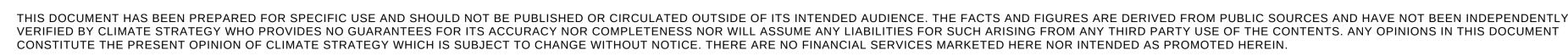
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Thanks!

Prepared by



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