

# Presentation to Fixed Income Investors

**HypoVereinsbank – UniCredit Bank AG**

Munich, December 2022

Empowering  
Communities to Progress. | 



# Agenda

- 1 **HypoVereinsbank at a glance**
- 2 **Update on latest results**
- 3 **Funding**
- 4 **Green Buildings Portfolio**
- 5 **Cover Pool**
- 6 **Annex**
- 7 **Contacts**



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1

# HypoVereinsbank at a glance



# 150 Years – From Bayerische Vereinsbank to UniCredit Bank AG

1 2 3 4 5 6 7

Founded in 1869 as “Bayerische Vereinsbank AG”  
the business was started in Munich, Bavaria



Headquarter of the Bayerische Vereinsbank in 1884



Since 2016 the HVB Tower has become  
Headquarter of the UniCredit Bank AG



# Part of a simple successful Pan European UniCredit, HypoVereinsbank has an excellent market position in the strong German economy

1 2 3 4 5 6 7

**Excellent market position**

**Top 3 German private bank<sup>1</sup>**

**Strong operating performance**

**EUR 943 m net operating profit (HY2022)**

**Excellent leverage ratio**

**4.8%** (fully loaded, HY2022)

**Outstanding capital ratio**

**19.4%** (CET1 fully loaded, HY2022)

**Strong balance sheet**

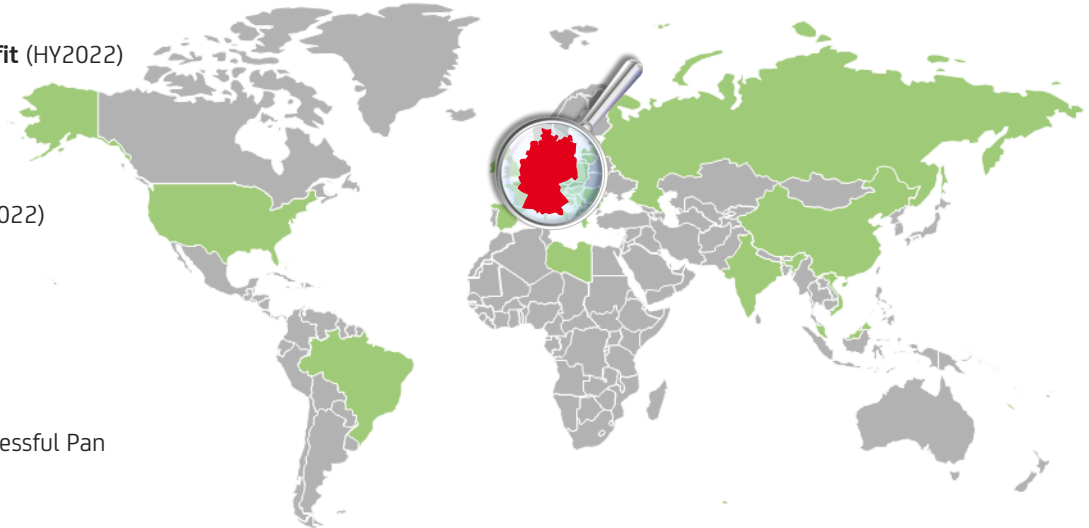
**EUR 342 bn (HY2022)**

**Highly qualified workforce**

**10,876 FTE (HY202)**

**Member of UniCredit Group**

Part of UniCredit, a simple successful Pan European Commercial Bank



General remark: Unless stated otherwise "HypoVereinsbank" refers to UniCredit Bank AG and its subsidiaries in this document

<sup>1</sup>HypoVereinsbank ranked as top 3 German private bank. Peer group "Bankengruppe der Großbanken" as defined by Deutsche Bundesbank. Based on Total Assets as of FY2021





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## Update on latest results





# HypoVereinsbank with positive business performance in the extremely challenging market environment in HY2022

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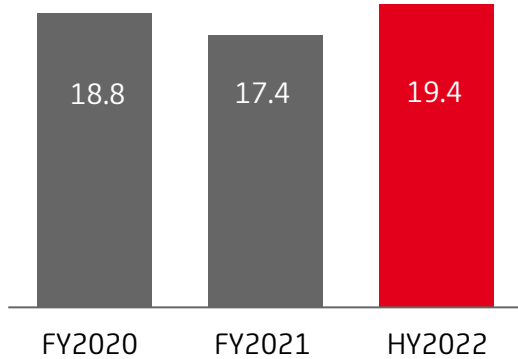
	30.06.2021	30.06.2022	Δ
<b>Profitability</b>	Operating income	EUR 2,114 m	EUR 2,244 m ↑ +6.2%
	Operating costs	EUR -1,432 m	EUR -1,330 m ↓ -7.1%
	Operating profit	EUR 682 m	EUR 914 m ↑ +34.0%
	Net write-down of loans and provisions for guarantees and commitments	EUR 34 m	EUR 29 m ↓ -14.7%
	Net operating profit	EUR 716 m	EUR 943 m ↑ +31.7%
	Profit before tax	EUR 617 m	EUR 939 m ↑ +52.2%
<b>Balance sheet</b>	Total assets	EUR 334 bn	EUR 342 ↑ +2.4%
	Shareholders' equity	EUR 18.0 bn	EUR 19.2 ↑ +6.7%
	Leverage ratio (Basel III, fully loaded)	5.1%	4.8% ↓ -30 bps
<b>Regulatory ratios</b>	Common Equity Tier 1 ratio (fully loaded)	18.0%	19.4% ↑ +140 bps
	Risk weighted assets (including equivalents for market risk and operational risk)	EUR 85.2 bn	EUR 81.0 bn ↓ -4.9%
	Liquidity Coverage Ratio (LCR)	>100%	>100% → -



# Healthy balance sheet provides sound base for sustainable growth and business continuity

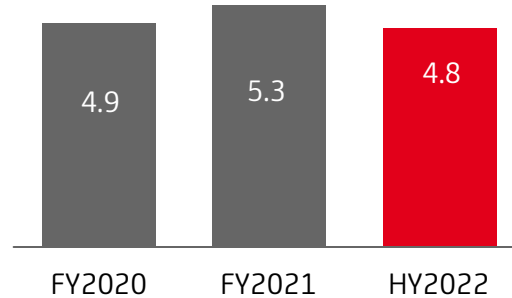
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**Capital (CET1 fully loaded)**  
in %



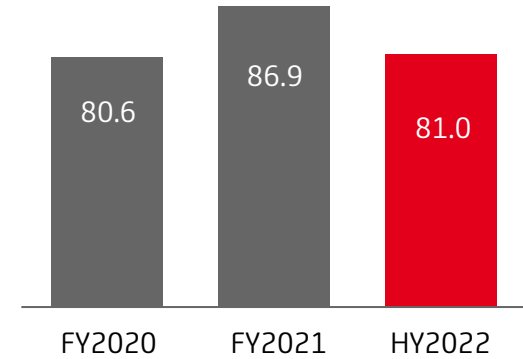
- Continuously excellent capital base by both national and international standards thanks to our organic capital generation.

**Leverage ratio (Basel III, fully loaded)**  
in %



- Leverage ratio on a comfortable level over the last 2 years.

**Risk-weighted assets<sup>1</sup>**  
in EUR bn



- The total risk-weighted assets determined in accordance with Basel III requirements amounted to EUR 81.0 bn at mid of 2022 and were thus EUR 5.9 bn lower than year-end 2021.

<sup>1</sup>Including equivalents for market risk and operational risk





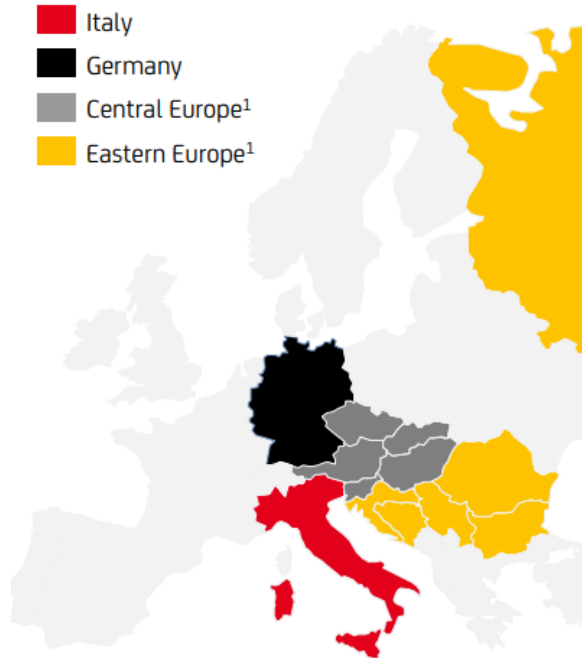


# Funding



# Well diversified and centrally coordinated funding and liquidity profile

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- **UniCredit S.p.A.** acts as the Group **Holding** as well as the Italian operating bank and is the **TLAC / MREL issuer** under Single-Point-of-Entry (SPE)
- **Geographical diversification** and well-established name with recognition in domestic markets allows for effective **liquidity management**, optimising funding costs

<sup>1</sup>Austria, Bosnia and Herzegovina, Bulgaria, Croatia, Czech Republic, Hungary, Romania, Russia, Serbia, Slovakia and Slovenia



# HypoVereinsbank: Funding and liquidity management

1 2 3 4 5 6 7

- **UniCredit Bank AG**, as the German subsidiary of UniCredit S.p.A., manages its liquidity and funding on the base of the policies of the Group, exploiting the opportunity to leverage on its unique funding base, also geographical, with a solid mix of instruments.
- The activities are **coordinated Group wide** and are based on a **common framework**, to **optimise market access and funding costs**
- The funding strategy aims at:
  - Covering the bank's needs at limited cost
  - Limiting the maturity mismatch between assets and liabilities
  - Optimising the projected cash flows

**UniCredit Bank AG** is **active as Issuer** in the following instruments:

- Mortgage and public covered bonds (“Pfandbriefe”)
- Private placements
- Retail issues
- Registered notes secured and unsecured (in SP format)
- French CD



**A leading Pfandbrief issuer:** EUR 22 bn<sup>1</sup> Covered bonds outstanding

- 89% mortgage covered bonds
- 11% public sector covered bonds

**Funding as of 30/09/2022:**

- Nearly 69% of the outstanding wholesale funding is issued in covered bonds
- Senior unsecured funding mainly in structured format

<sup>1</sup>Figure as of 30/09/2022 (net volume)

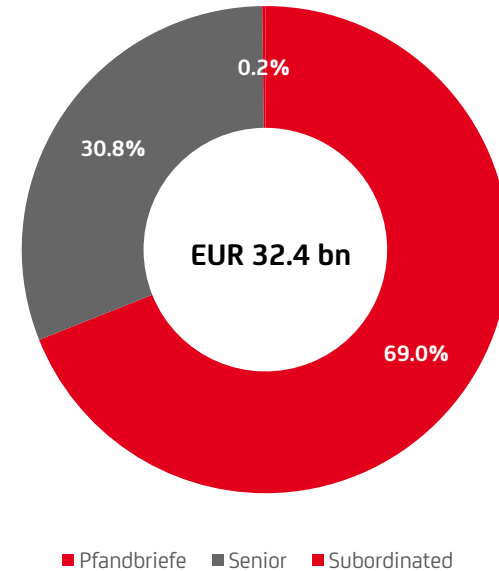


# HypoVereinsbank's funding mix: Sustainable, diversified and risk adjusted

## Strict three-pillar funding strategy<sup>1</sup>:

- **Sustainability**
  - Solid medium / long term funding with constant presence on the debt capital market
  - Declining outstanding issuance volume within a sound balance sheet structure (2010: >EUR 62 bn; 3Q/2022: EUR 32.4 bn)
- **Diversification**
  - Diversification and activity in all channels to avoid concentration risk especially with regard to seniors
  - Covered bonds (“Pfandbriefe”) as important source of funding due to cost-efficiency, first-class credit quality and high degree of safety for investors
- **Risk Management**
  - Maturity diversification to avoid concentration risk

## Split of outstanding issuance<sup>1</sup> by instrument type in %



<sup>1</sup>Figures as of 30/09/2022, net volume of senior, subordinated and covered bonds “Pfandbriefe” of UniCredit Bank AG and their subsidiaries (without own issuances held on own books); Positions within UniCredit Group are excluded, except held for trading purposes



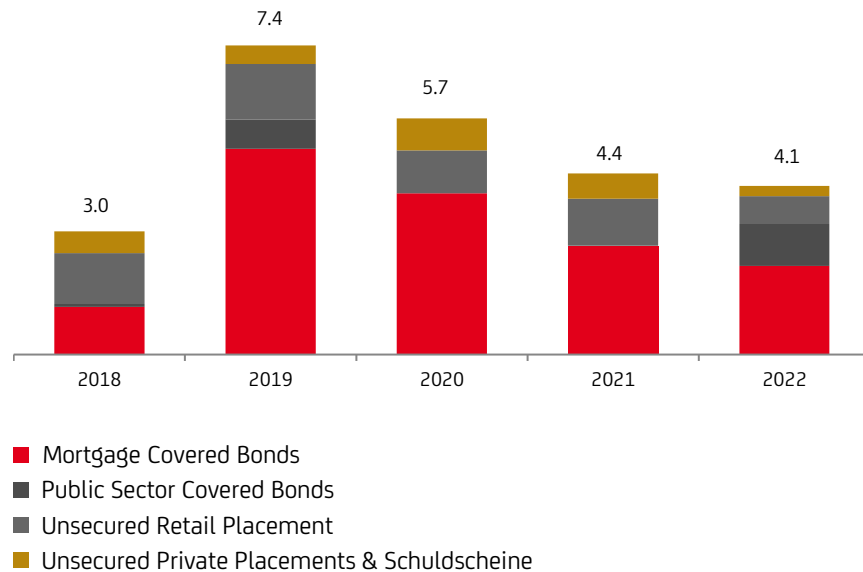
# Medium-Long Term Funding: Solid and diversified funding structure

1 2 3 4 5 6 7

## HypoVereinsbank's funding risk continues to remain on a low level due to

- Use of various channels
- Wide range of funding products
- Issuance in multiple asset classes and markets
- Well diversified group of investors

## Funding volume and breakdown of funding sources<sup>1</sup> in EUR bn



<sup>1</sup>Executed funding volume as of 30/09/2022. Calculation incl. forward transactions, without Other M/L Term Funding and Promotional (Supranational) Funding



# Ratings<sup>1</sup> of HypoVereinsbank reflect robust business model and strong focus on the German market

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## MOODY'S

## STANDARD & POOR'S

## Fitch Ratings

**Long-term /  
Outlook /  
Short-term**

Counterparty Rating: A1/P-1  
Deposits: A2/neg/P-1  
Issuer Rating: A2/neg  
Sen. Unsec.: A2/neg  
Jr. Sen. Unsec.: Baa2

Resolution Counterparty Rating:  
A-/A-2  
Issuer Credit Rating:  
BBB+/stable/A-2  
Sen. Unsec.: BBB+  
Sen. Subord.: BBB

Derivative Counterparty Rating:  
A-(dcr)  
Deposits: A-/F2  
Issuer Default Rating: BBB+/neg/F2  
Sen. Preferred: A-/F2  
Non-Preferred Sen. Unsec.: BBB+

**Stand-alone Rating**

baa2

bbb+

bbb+

**Public Sector  
Covered Bonds /  
Outlook**

Aaa

-

-

**Mortgage Covered  
Bonds / Outlook**

Aaa

-

-

<sup>1</sup>Ratings as of 19/12/2022





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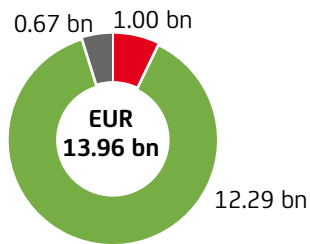
# Green Buildings Portfolio





# Qualifying eligible assets<sup>1</sup>

## HVB Overall Qualifying Assets

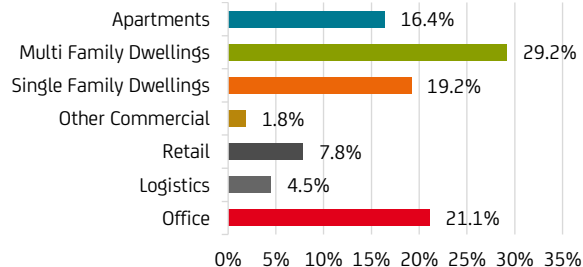


■ Social ■ Green Buildings ■ Renewable Energy

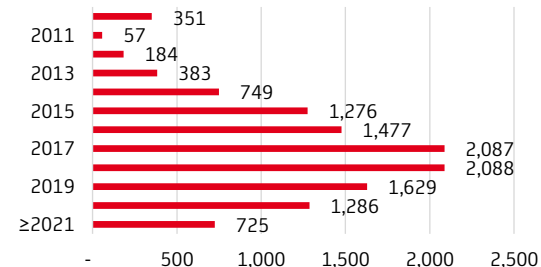
### Green buildings

Number of Loans	#32,169
Avg EUR m / Loan	0.38 m
Avg Time to Maturity	18.4 ys
Share in Cover Pool in EUR	9.9 bn

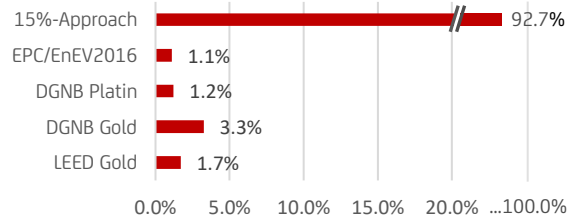
## Main use



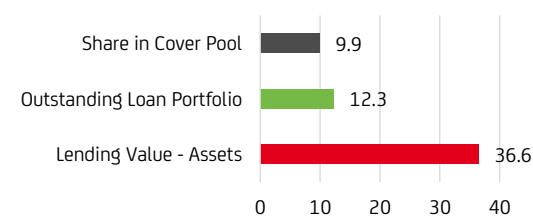
## Loan Closing Date



## Certificate / Standard<sup>2</sup>



## Portfolio Values



<sup>1</sup>Asset value as of 31.03.22

<sup>2</sup>LEED = Leadership in Energy and Environmental Design, DGNB = Deutsche Gesellschaft für Nachhaltiges Bauen, EnEV= Energieeinsparverordnung



# Green Buildings Portfolio: Sample Project “Welfengarten”

## “Welfengarten” – A sustainable city district development

- The project “Welfengarten” in the heart of **Munich’s well known area “Nockherberg”** has been awarded a Real Estate Green Loan of UniCredit.
- As a 100% brownfield development, the area was fully sealed. The **ecological** quality is reflected by up to **13% CO<sub>2</sub>-reduction** compared to the EnEV 2016 through environmentally friendly energy supply.
- With **district heating, energy management system, and thermal insulation facade** – the focus is on optimal value development over the **life cycle** of the property as well as the quality of the **socio-cultural factors (including 30 units reserved for low-and-middle-income households<sup>1</sup>)**.
- The project “Welfengarten” is part of the urban district, which provides in whole 1,500 units, where around 3,500 people in Munich can also find recovery in the neighboring park of 14,000 sqm. Several daycare centers, playgrounds as well as new pedestrian and cycle paths complete the modern and sustainable urban district.

52, 000 kg CO<sub>2</sub>-emissions p.a. avoided<sup>2</sup>



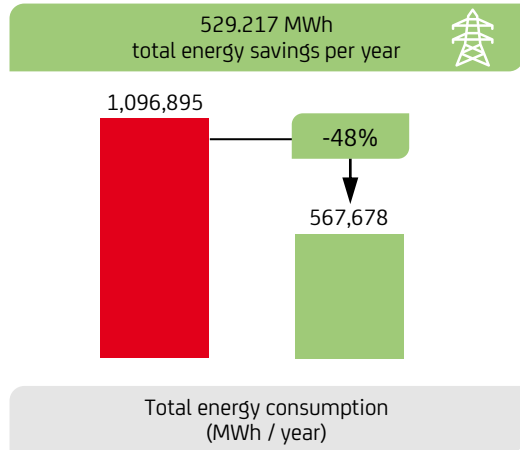
<sup>1</sup>In accordance with official requirements.

<sup>2</sup>Compared to the EnEV 2016



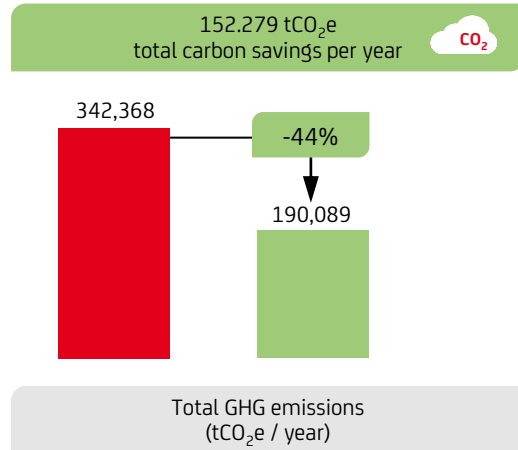
# Impact – Green Buildings Portfolio<sup>1</sup>

## Total energy savings



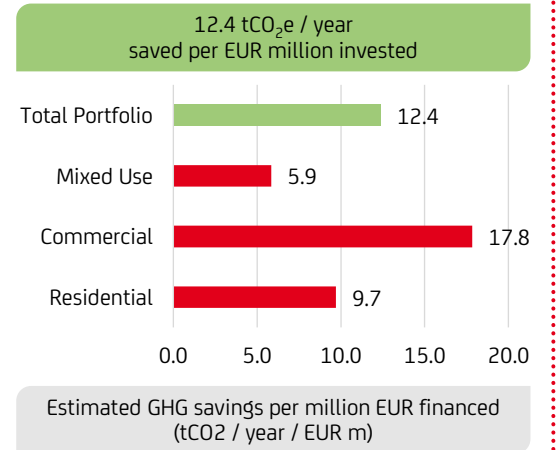
This represents **the total energy saved by UniCredit's Green Buildings**, by calculating the difference in energy use between UniCredit's Green building assets and the national building stock reference benchmarks or the calculated notional building (the 'reference portfolio').

## Total carbon savings



This represents **the total CO<sub>2</sub>e emissions avoided by UniCredit's Green Buildings**, by calculating the difference in energy use between UniCredit's Green building assets and the national building stock reference benchmarks or the calculated notional building (the 'reference portfolio').

## Investment impact



Given the investment impact of 12.4 tCO<sub>2</sub>e / year per EUR m there **are savings of 6,200 tCO<sub>2</sub>e / year** allocated to a 500 EUR m Green Pfandbrief issued by UniCredit Bank AG.

<sup>1</sup>Loan data as of 31 Mar 2022; Energy and carbon savings are allocated proportionally to UniCredit Bank AG's current Loan-to-Value.



# Methodology Explained

**Green Building Portfolio**


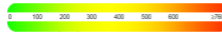



9 INDUSTRY INNOVATION AND INFRASTRUCTURE

### Energy saving

To calculate the energy saving for each green asset (kWh):

Reference building ((kWh))  $-$  Energy demand / consumption (acc. to EPC)<sup>1</sup> of green bond asset (kWh)  $=$  **Energy saving (kWh)**

### Carbon savings

To calculate carbon savings of each green asset (kgCO<sub>2</sub>):

Carbon emissions intensity of reference building (kgCO<sub>2</sub> / m<sup>2</sup>)  $-$  Carbon emissions intensity of green bond asset (kgCO<sub>2</sub> / m<sup>2</sup>)  $\times$  Area of green bond asset (m<sup>2</sup>)  $=$  **Carbon emissions savings (kgCO<sub>2</sub>)**

### Methodology

- Assets with a consumption-based EPC were benchmarked against the BBSR 2019 national energy reference benchmarks for HVAC conditioned offices with heating and electricity.
- Assets with a demand, calculation-based energy performance certificate were benchmarked against the object and asset-specific notional reference benchmark for heating and electricity, based on primary energy and converted into site energy demand including energy sources, carrier and conversion factors (site-to-source, CO<sub>2</sub>-equivalents).
- For residential assets with a demand, calculation-based energy performance certificate are benchmarked against the national average reference benchmark for the building stock.
- The CO<sub>2</sub> emissions equivalent factors were based on the following:
  - Gebäudeenergiegesetz GEG 2020
  - DIN V 18599:2018/ BAFA guidelines 2020
  - Covenant of Mayors for Climate & Energy: Default emission factors for local emission inventories – Version 2017
  - CoM Default Emission Factors for the Member States of the European Union
  - City-specific district heating emissions factors were provided by the energy supplier and corresponding valid CO<sub>2</sub>-certificates
- The electricity (green power) mix was calculated on the basis of the annual public net energy use-weighted mix for Germany for the year 2020, based on the CoM emission factors for renewable energies (wind, solar, hydro)

Calculations provided by **DREES & SOMMER**





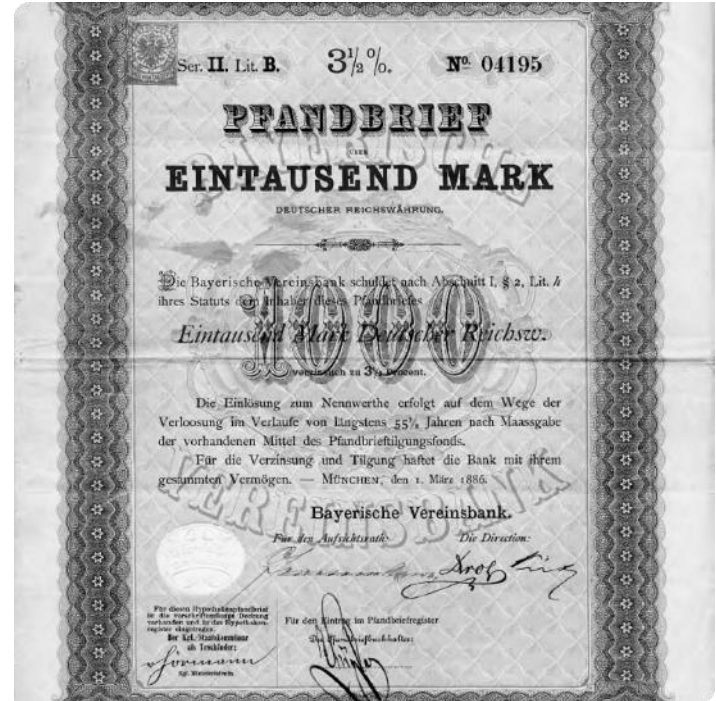
# Cover pool





# From the first Communal Obligation in 1871 to the Green Pfandbrief

- In **1869** the “**Bayerische Vereinsbank**” received the permission to issue Pfandbrief
- 1871 the first communal obligation was issued
- Since this time the Pfandbrief has always been one of the **main refinancing instruments** of the bank and HVB has established itself as a permanent issuer in the Capital markets
- **2019** first **USD** denominated Public Pfandbrief benchmark issue
- **2021** HVB has committed to the Minimum Standards of the VdP for the “**Green Pfandbrief**”



# HypoVereinsbank and its Pfandbrief History

King Frederick II decreed the first mortgage bond in Germany, referred to as “Pfandbrief”

1769



King Max II introduced the modern Pfandbrief system in Bavaria

1864

Foundation of Bayerische Vereinsbank

1869



Formation of a powerful mortgage bank: HypoVereinsbank

1998

Merger of Bayerische Hypotheken- und Wechsel Bank and Bayerische Vereinsbank

HypoVereinsbank becomes part of UniCredit Group

2005

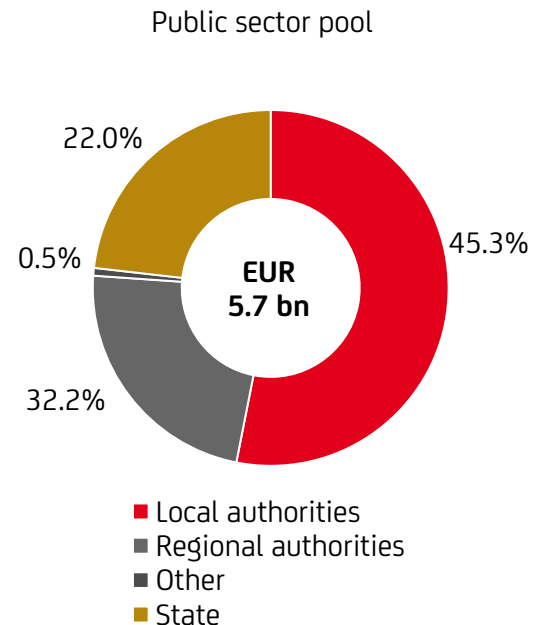
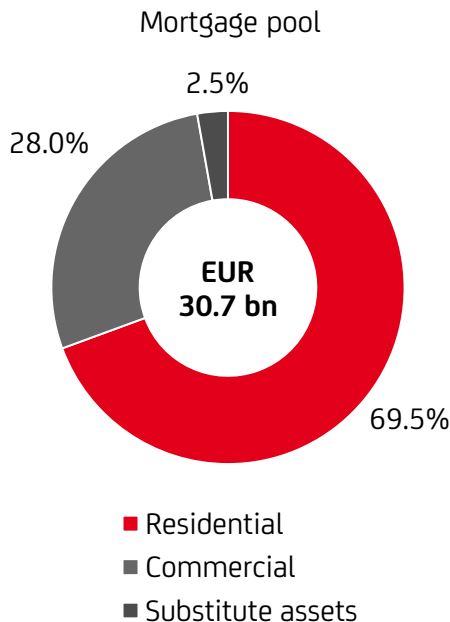




# HypoVereinsbank's cover pool at a glance: A strong Pfandbrief house

As of 30.09.2022	Mortgage	Public
Pool type	Dynamic	
<b>Cover pool (EUR m)</b>		
Nominal value <sup>1</sup>	29,807	5,718
Net present value	29,103	5,583
Substitute assets	0,857	0
<b>Total number of loans</b>	136,407	1,561
<b>Fixed rate loans</b>	82.3%	71.5%
<b>Floating rate loans</b>	17.7%	28.5%
<b>Outstanding issues (EUR m)</b>		
Nominal value	24,628	3,469
Net present value	22,025	3,395
<b>Overcollateralisation<sup>2</sup></b>	24.5%	64.8%

## Total cover pool – Split mortgage and public sector (3Q2022)



<sup>1</sup>Excluding substitute assets

<sup>2</sup>OC calculated with nominal values of cover pool and outstanding issues

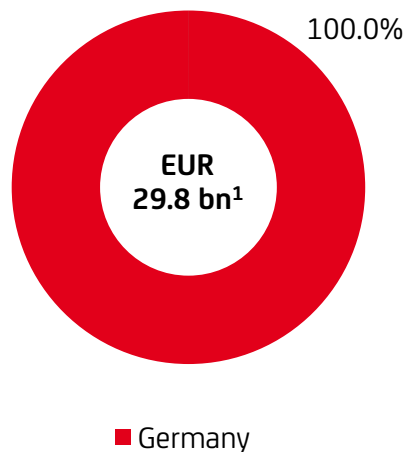


# Mortgage cover pool with purely German assets

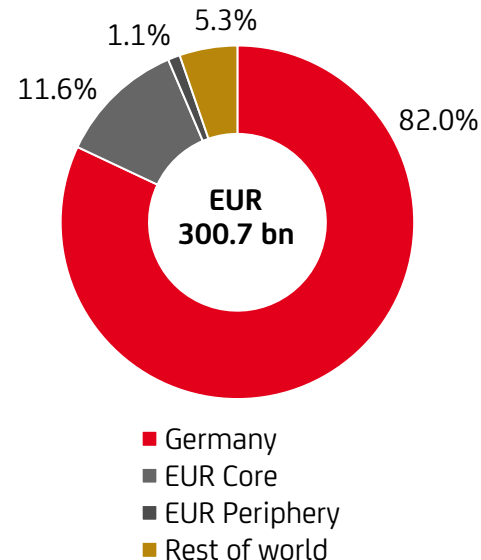
- As one of the oldest Pfandbrief players in Germany, HypoVereinsbank is well acquainted with the characteristics of the highly regulated German market
- With exclusively German assets in the mortgage cover pool, HypoVereinsbank benefits from the country's solid and reliable economic situation
- With 18%, the non-German exposure of the members of the Association of German Pfandbrief Banks (vdp) is substantially higher compared to HypoVereinsbank

## Total mortgage cover pool – Split by country of asset location (3Q2022)

Cover pool HypoVereinsbank<sup>2</sup> (3Q2022)



Cover pool all vdp-members<sup>2</sup> (3Q2021)



<sup>1</sup>Without further cover assets

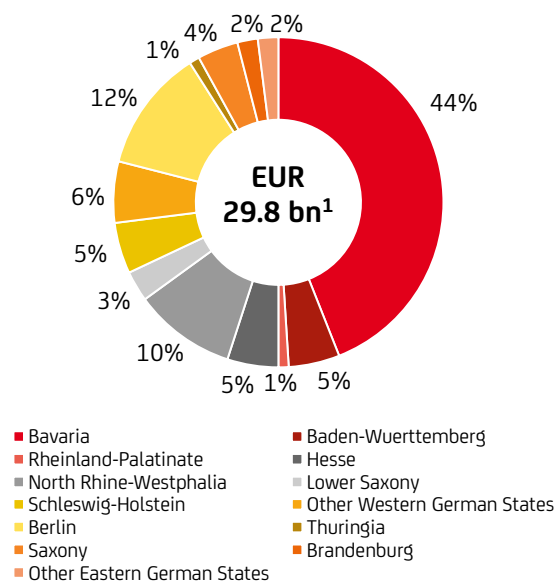
<sup>2</sup>EUR Core: B, DK, F, FIN, GB, LUX, NL, AUT, PL, S, CZ, IIE, EU; EUR Periphery: BUL, EST, GR, IT, IRL, LET, LIT, MALT, PORT, RO, SLO, SK, ESP, HU, CY; Rest of world: ISL, NOR, CH, JAP, CAN, USA



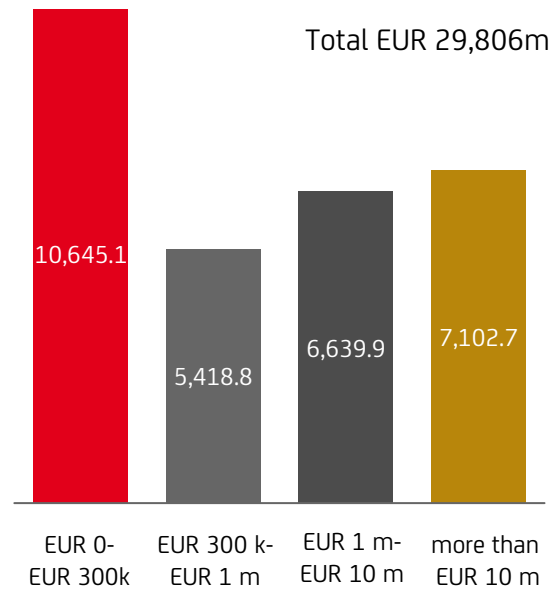
# Mortgage cover pool with solid foothold in economically strong Bavaria

- UniCredit Bank AG's mortgage cover pool is mostly concentrated in economically strong federal state Bavaria where the bank has strongest presence
- The non-Bavarian mortgage cover pool is well diversified between the capital Berlin and the remaining federal states
- Mortgages of up to three hundred thousand Euros account for almost 36% of the entire mortgage cover pool basing it on a wide an solid foundation

**Mortgage cover pool by location<sup>1</sup> (3Q2022)**



**Mortgage cover pool by size<sup>1</sup> (3Q2022 in EUR m)**



<sup>1</sup>Without further cover assets in accordance with section 19 (1) PfandBG

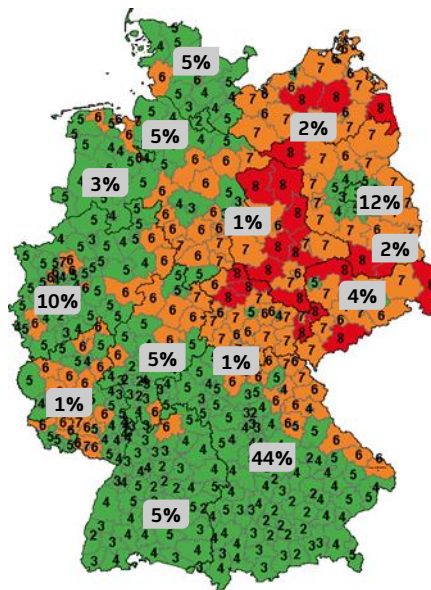


# Mortgage cover pool with solid foothold in economically strong Bavaria

## Consistent risk management

- Internal risk map based on empirical data from decades serves as basis for Loan-to-value (LTV) limits
- Focus areas of HypoVereinsbank's mortgage cover pool in low risk regions
- Majority of the mortgage cover pool with a LTV <100%

Risk map residential real estate<sup>1</sup>



## Loan-to-value limits

for retail and private banking clients

Division	Risk color	LTV limit <sup>2</sup>	
		Owner-occupied	Buy to let
Retail		95%	80%
Retail		85%	70%
Retail		70%	no financing
Private Banking		100%	100%
Private Banking		70%	70%

<sup>1</sup>As of 3Q2022

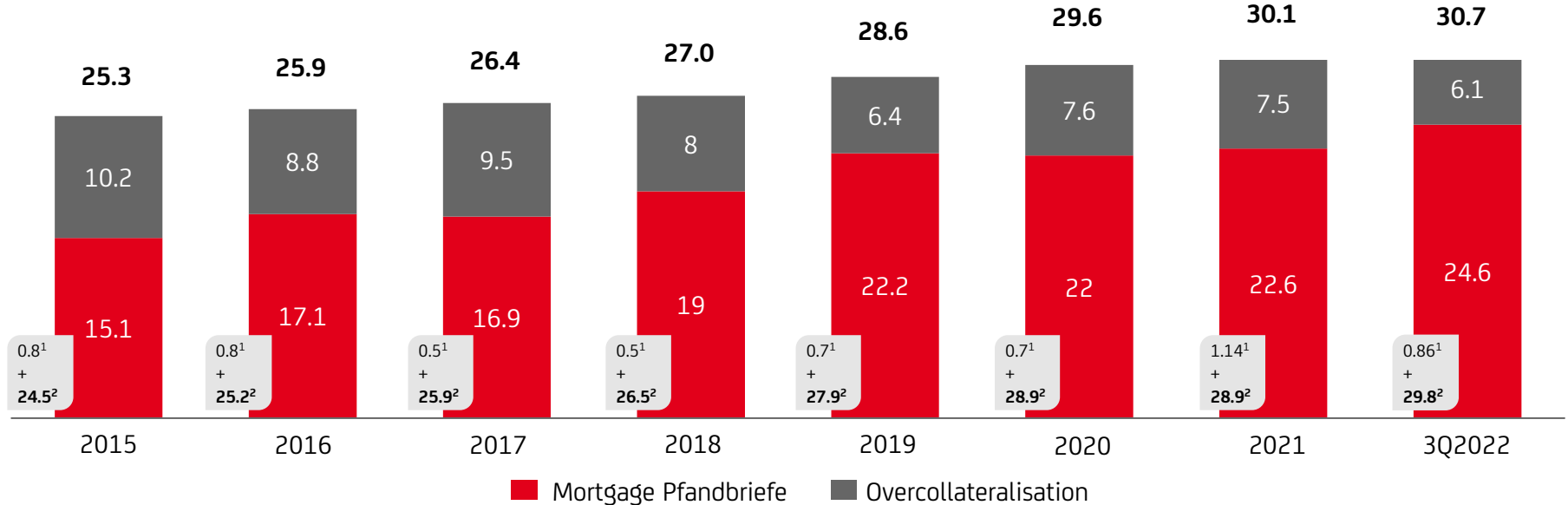
<sup>2</sup>Loan-to-value limits are calculated on the basis of market values derived from internal calculations (System Wertweiser, KRQ and on-site visit)



# Investors benefit from high level of overcollateralisation of outstanding Pfandbriefe

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Total mortgage cover pool development and nominal overcollateralization in historical comparison (in EUR bn)



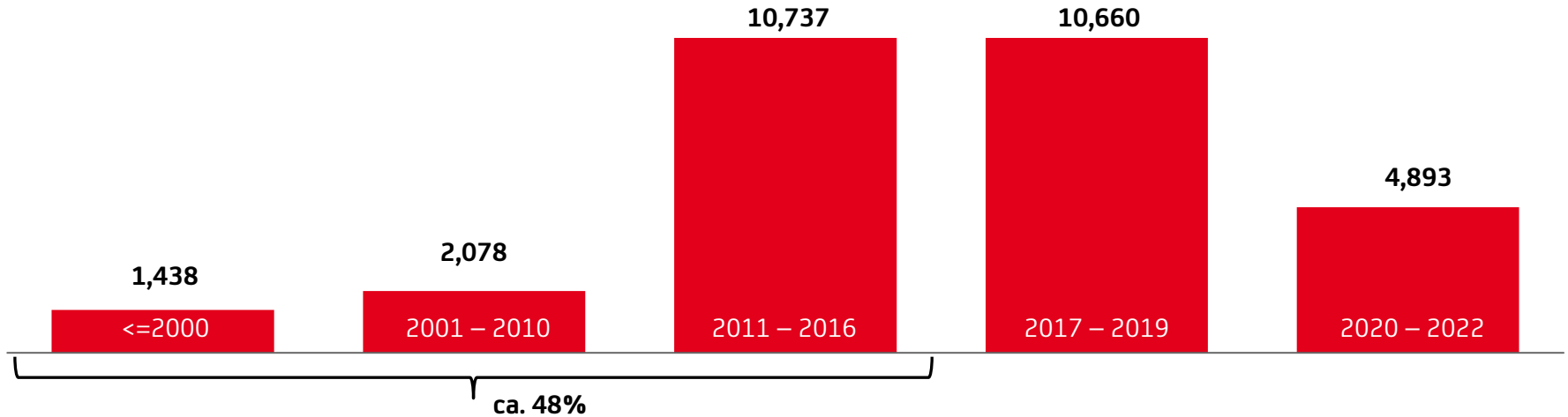
<sup>1</sup>Further cover assets in accordance with section 19 (1) German Pfandbrief Act

<sup>2</sup>Mortgage cover assets: There are no derivatives and foreign currency assets used as cover for Mortgage Pfandbriefe



# High percentage of long lasting client relationship minimises risk

Cover pool mortgages (nominal) per closing date 3Q2022 (in EUR m)



- Roughly 48% of HypoVereinsbank's cover pool mortgages date back to more than five years
- Reliable and predictable customer base due to long term client relationship



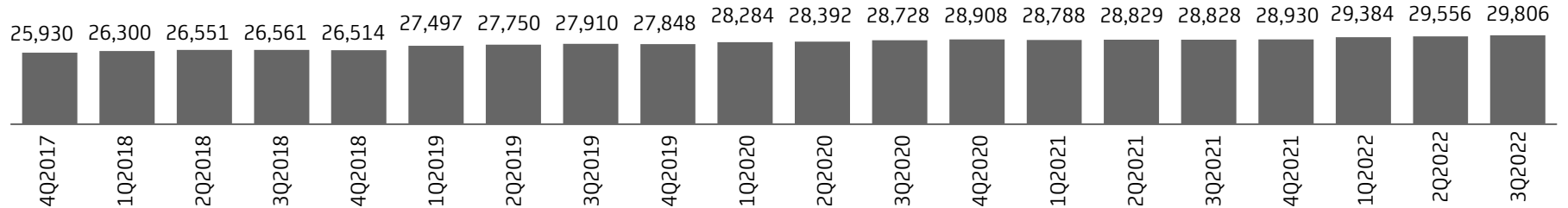
# Excellent payment discipline: Arrear ratio<sup>1</sup> below 0.004% for years

1 2 3 4 5 6 7

Payments in Arrears – in EUR m and % share of the mortgage cover pool (arrear ratio)



Total mortgage cover pool (in EUR m)



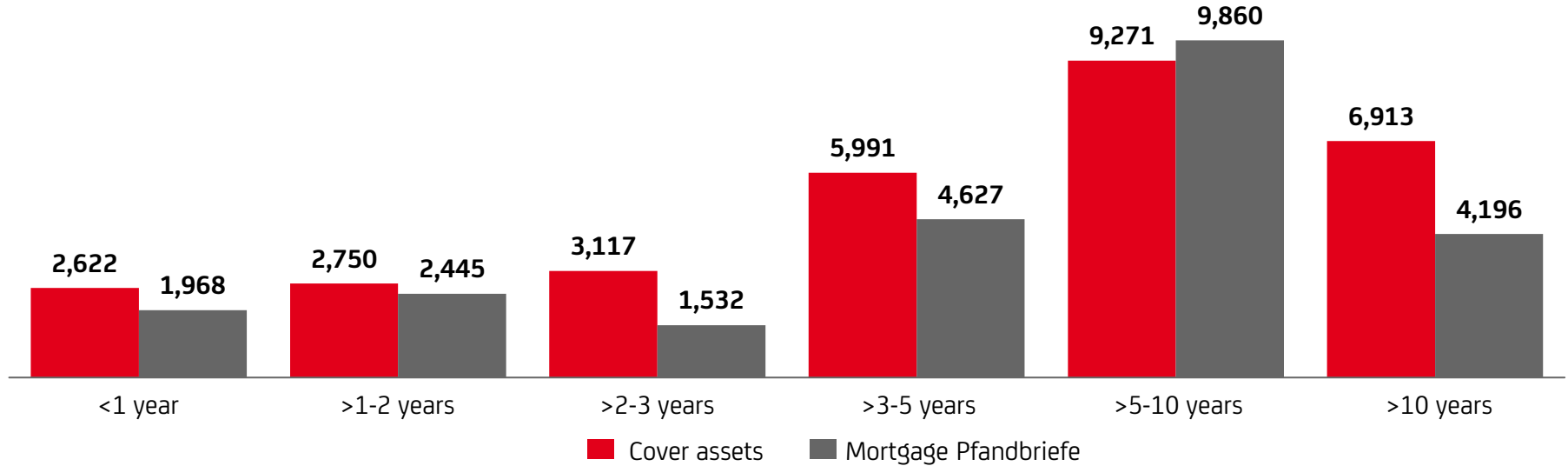
<sup>1</sup>Payments more than 90 days overdue in relation to mortgage receivables





# Well matching maturity profiles of mortgages and Pfandbrief issues

Maturity structure of outstanding mortgage Pfandbriefe versus related cover assets 3Q2022 (in EUR m)



# Overview of benchmark issues since 2020

1 2 3 4 5 6 7

Pfandbrief Type	Initial Tenor and Interest Type	Issued Volume	Issue Date	Maturity	Spread
<b>Mortgage Pfandbriefe</b>	12Y. FXD Rate	EUR 1.25 bn	Jan 20	Jan 32	Midswap +6 bps
<b>Mortgage Pfandbriefe</b>	10Y. FXD Rate	EUR 1.00 bn	Jun 20	Jun 30	Midswap +10 bps
<b>Mortgage Pfandbriefe</b>	8Y. FXD Rate	EUR 1.00 bn	Sep 20	Sep 28	Midswap +7 bps
<b>Mortgage Pfandbriefe</b>	15Y. FXD Rate	EUR 0.50 bn	Jan 21	Jan 36	Midswap +3 bps
<b>Mortgage Pfandbriefe</b>	10Y. FXD Rate	EUR 0.75 bn	Mar 21	Mar 31	Midswap +1 bp
<b>Mortgage Pfandbriefe</b>	8Y. FXD Rate	EUR 0.5 bn	May 21	May 29	Midswap -1 bp
<b>GREEN Mortgage Pfandbriefe</b>	5Y. FXD Rate	EUR 0.5 bn	Sep 21	Sep 26	Midswap -2 bps
<b>TAP Mortgage Pfandbrief</b>	12Y. FXD Rate	EUR 0.25 bn	Nov 21	Jan 32	Midswap -1 bp
<b>Mortgage Pfandbriefe</b>	11Y. FXD Rate	EUR 1.00 bn	Jan 22	Jan 33	Midswap flat
<b>Public Sector Pfandbrief</b>	5Y. FXD Rate	EUR 1.00 bn	Feb 22	Feb 27	Midswap -1 bp
<b>Mortgage Pfandbriefe</b>	5Y. FXD Rate	EUR 0.5 bn	Jun 22	Jun 27	Midswap flat
<b>GREEN Mortgage Pfandbriefe</b>	5.5Y. FXD Rate	EUR 0.5 bn	Sep 22	Apr 28	Midswap flat
<b>Mortgage Pfandbriefe</b>	3.25Y. FXD Rate	EUR 0.75 bn	Nov 22	Feb 26	Midswap +2

as of 19 Dec





# Annex



# EU Taxonomy – eligibility criteria for climate change mitigation – residential assets in Germany

Economic activity	Screening criteria	Single-Family houses <sup>1</sup>	Multi-Family houses <sup>2</sup>
<b>7.1 Construction of new buildings</b>	<b>Nearly Zero-Energy Building</b> Primary energy demand <sup>3</sup> minus 10%	At least 10% lower than the requirements for the primary energy demand of the “Nearly Zero-Energy Building” standard (NZEB). Based on the “Energy Performance of Buildings Directive (EPBD)”, the NZEB-standard is implemented in the GEG 2020 (Gebäudeenergiegesetz) requirements.	
<b>7.2 Renovation of existing buildings</b>	<b>Major Renovation</b> Cost optimal level	The building renovation complies with the applicable requirements for major renovations as defined in the Energy Performance of Buildings Directive (EPBD), based on the cost optimal level as defined in EnEV 2016. (EnEV 2016 as EnEV 2014 with amendments from 01.01.2016)	
	<b>Property Upgrade</b> Relative improvement $\geq 30\%$ in primary energy demand	Relative improvement in primary energy demand $\geq 30\%$ in comparison to the performance of the building before the renovation. Reductions through renewable energy sources are not taken into account.	
<b>7.7 Acquisition and ownership of buildings</b>	<b>Energy Performance Certificate</b> EPC at least class A	Energy performance class A+ or A Final energy demand <sup>4</sup> : A+ < 30   A < 50 kWh/(m <sup>2</sup> a)	
	<b>top 15%</b> of the national existing building stock <sup>5</sup>	Energy performance class A+, A or B with a final energy demand: A+ < 30   A < 50 kWh/(m <sup>2</sup> a)   B < 75 kWh/(m <sup>2</sup> a) Primary energy demand: < 74 kWh/(m <sup>2</sup> a) Primary energy demand: EnEV 2009 or better Final metered energy use <sup>6</sup> : < 70 kWh/(m <sup>2</sup> a)	Energy performance class A+ or A with a final energy demand: A+ < 30   A < 50 kWh/(m <sup>2</sup> a)

Source: Drees & Sommer low carbon building criteria are based on EU Taxonomy (Delegated Act – July 2021). Criteria are valid for assets located in Germany. Status: December 2021  
<sup>1</sup>SFH: Single-Family house with 1-2 units <sup>2</sup>MFH: Multi-Family house with >2 units <sup>3</sup>Primary energy demand = Primärenergiebedarf <sup>4</sup>Final energy demand = Endenergiebedarf <sup>5</sup>The EU Taxonomy Regulation focuses on primary energy demand in its eligibility criteria. In Germany, energy performance certificates (EPCs) can be issued based on calculated primary energy demand as well as metered primary energy consumption. In this study, therefore the top 15%- eligibility criteria are also indicated on metered consumption figures. <sup>6</sup>Final metered energy use = gemessener Endenergieverbrauch

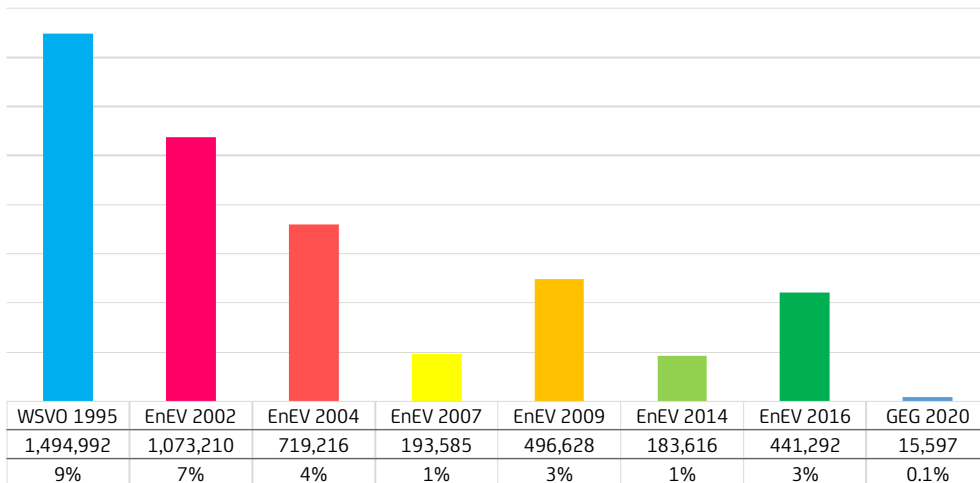
Drees & Sommer – EU Taxonomy: Acquisition and ownership - derivation of the top 15% of existing building stock in Germany - February 2022



# Residential building stock – Single-Family house – Germany

Number-Anzahl Wohngebäude of residential buildings

1,600,000  
1,400,000  
1,200,000  
1,000,000  
800,000  
600,000  
400,000  
200,000  
0



## Information and data is based on:

- Central Statistical Office in Germany “Statistisches Bundesamt” (Destatis 2021)
- Deutsche Energie-Agentur (dena, 2021)
- Census 2011 and microcensus 2014
- Co2online/wohngebaeude.info 2019

According to this database information, there are in **Germany by the end of 2020**

- ≈ 16 million single family houses with
- ≈ 19.2 million residential dwellings

Data from 1995–2020 are based on Destatis, previous 1995 is added from census 2011 and microcensus 2014.

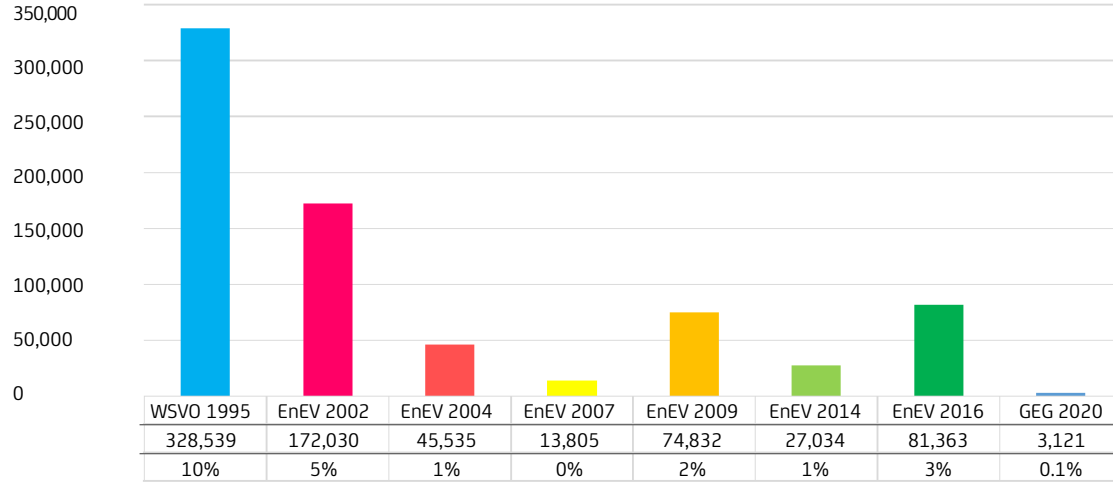
Number of buildings, which have undergone an energy efficient retrofit, are not included.

Source: Drees & Sommer figure based on Statistisches Bundesamt (DESTATIS 2021), DENA 2016, DENA 2021, co2online  
Drees & Sommer – EU Taxonomy: Acquisition and ownership – derivation of the top 15% of existing building stock in Germany – February 2022



# Residential building stock – Multi-Family house – Germany

Number Anzahl Wohngebäude of residential buildings



## Information and data is based on:

- Central Statistical Office in Germany “Statistisches Bundesamt” (Destatis 2021)
- Deutsche Energie-Agentur (dena, 2021)
- Census 2011 and microcensus 2014
- Co2online/wohngebaeude.info 2019

Based on this information, there are in Germany by the end of 2020

- ≈ 3.3 million multi family houses with
- ≈ 22.2 million residential dwellings

Data from 1995–2020 are based on Destatis, previous 1995 is added from census 2011 and microcensus 2014.

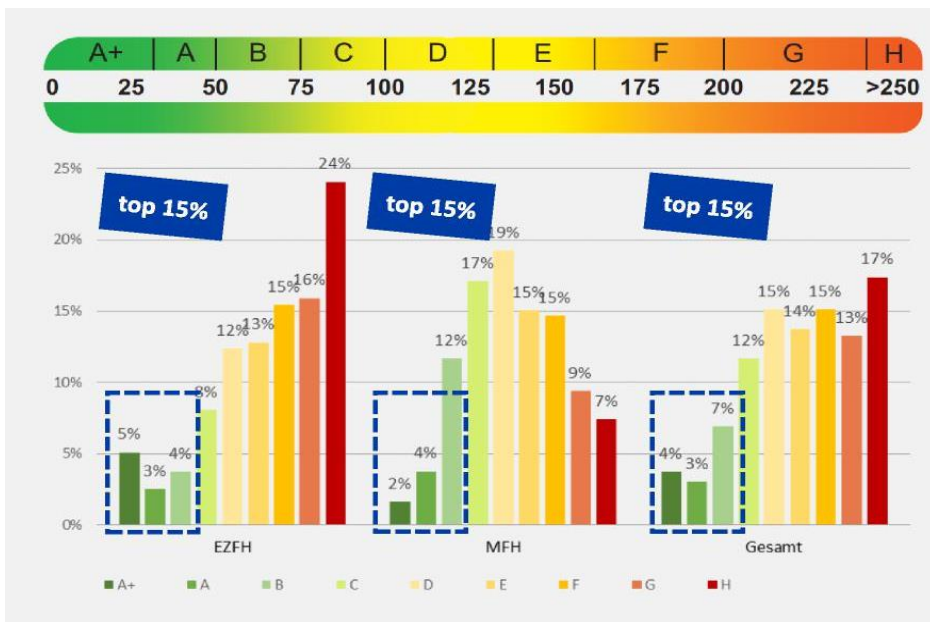
Number of buildings, which have undergone an energy efficient retrofit, are not included.

Source: Drees & Sommer figure based on Statistisches Bundesamt (DESTATIS 2021), DENA 2016, DENA 2021, co2online  
Drees & Sommer – EU Taxonomy: Acquisition and ownership – derivation of the top 15% of existing building stock in Germany - February 2022



# Residential building stock – Germany

## Energy Efficiency Rating in kWh/m<sup>2</sup> per year



## Top 15%-criteria

Residential building is within the **top 15%** of its local market, if Energy efficiency class is:

Single-Family: **top 15%** within A+, A or B

Multi-Family: **top 15%** within A+ or A

**Evaluation:** Based on the available data from end of 2019, it can be stated that the energy efficiency class B is within the **top 15%** of the local market for residential assets as the whole group. This threshold is subject to change.

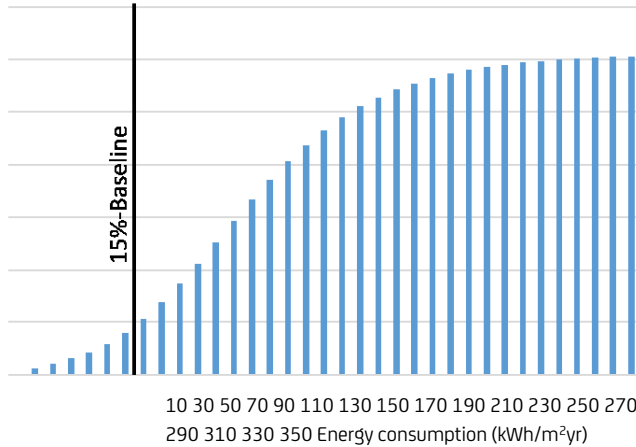
This study includes buildings with calculated energy performance certificates (81 thousand).

Source: Vorbereitende Untersuchungen zur Erarbeitung einer Langfristigen Renovierungsstrategie nach Art 2a der EU-Gebäuderichtlinie RL 2018/844 (EPBD), BMWI 2019



# Low carbon trajectories – top 15% baseline – residential assets in Germany

## Single-Family House Multi-Family House



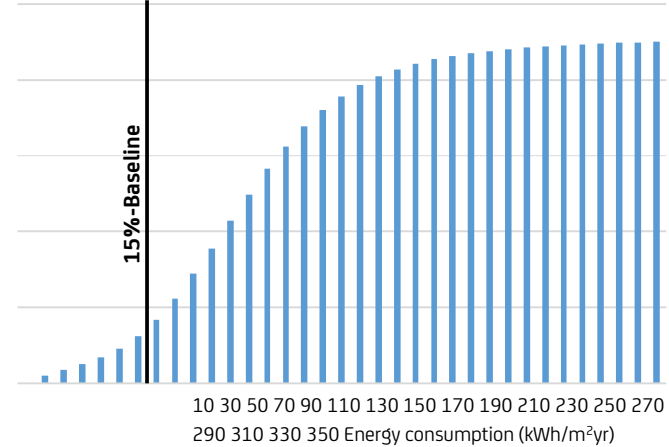
### Top 15%-eligibility criteria:

Single-Family houses with a final metered energy use (consumption)

< 70 kWh/m<sup>2</sup>a or less represent the top 15% of its local market.

(< 80 kWh/m<sup>2</sup>a = top 17%)

Database = 1,211,772 SFH+TFH assets, CO2 online / wohngebäude.info, Results of survey 2002...2019



### Top 15%-eligibility criteria:

Multi Family-houses with a final metered energy use (consumption)

< 70 kWh/m<sup>2</sup>a or less represent the top 15% of its local market.

(< 80 kWh/m<sup>2</sup>a = top 19%)

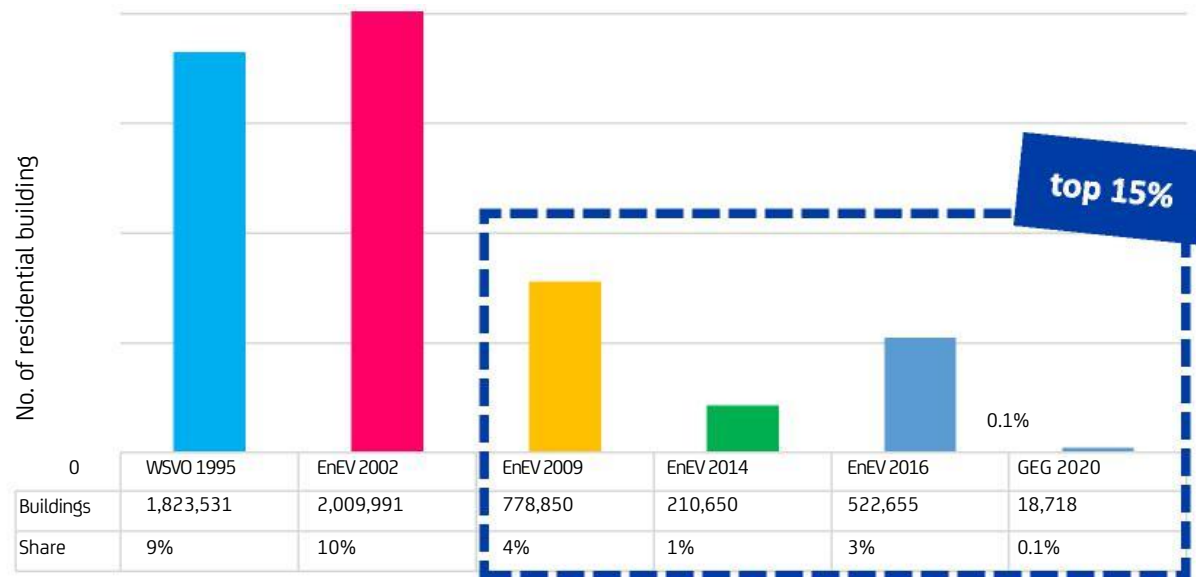
Database = 224,848 MFH assets, Co2 online / wohngebäude.info; Results of survey 2002...2019





# Residential building stock – Germany

## Energy Performance Standard



Residential building is within the top 15% of its local market, if: Building energy efficiency code is EnEV 2009 or newer (compliance with primary energy demand requirements and building energy efficiency)

Drees & Sommer figure based on Statistisches Bundesamt (DESTATIS 2021), DENA 2016, DENA 2021, co2online

Drees & Sommer – EU Taxonomy: Acquisition and ownership - derivation of the top 15% of existing building stock in Germany - February 2022





# Contacts



# Contact Page

## Corporate & Individual Solutions

Holger Oberfrank  
Co-Head of Treasury  
Tel. +49 89 378-15100  
holger.oberfrank@unicredit.de

## Group Investor Relations

Christian Kuhner  
Tel. +39 02 88622850  
christianulrich.kuhner@unicredit.eu

## Imprint

Corporate & Individuals Solutions  
UniCredit Bank AG  
Arabellastrasse 12  
81925 Munich

## CFO Finance

Claudio Volpi  
Head of Finance  
Tel. +49 89 378-13040  
claudiovittorio.volpi2@unicredit.de

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