

# Green Bond - Quarterly Report

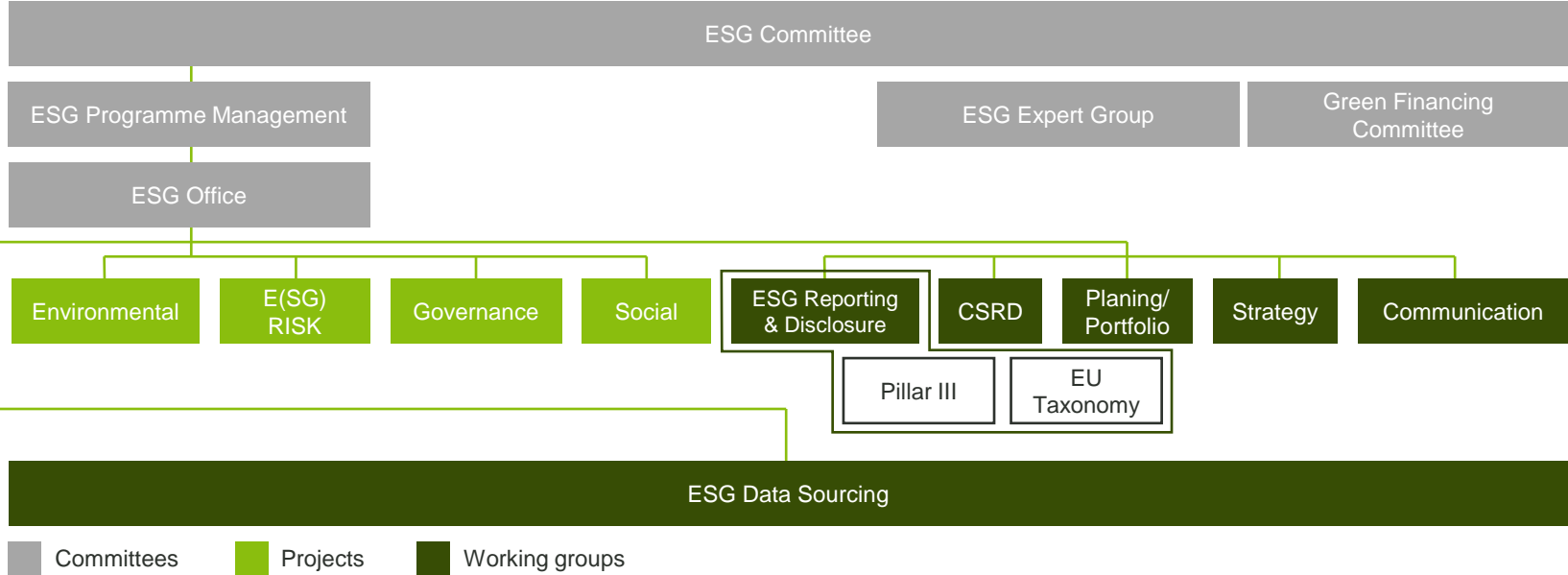
## May 2025

Green Bond Senior Preferred Benchmarks						
ISIN	DE000A3H2ZX9	DE000A3T0X22	DE000A30WFV1	DE000A30WF43	DE000A30WF84	DE000A382616
Issue Rating	BBB- (S&P)					
Second Party Opinion	S&P Global					
Green Bond Framework	2020	2020	2020	2020	2020	2023
Coupon	0.10%	0.25%	4.375%	7.625%	5.0%	4.0%
Value Date	01.02.2021	27.10.2021	29.08.2022	08.12.2022	06.02.2023	27.11.2024
Maturity	02.02.2026	27.10.2025	28.08.2026	08.12.2025	05.02.2027	27.01.2028
Issue Size	€ 500 mn	€ 500 mn + € 200 mn tap	€ 500 mn	GBP 350 mn	€ 500 mn	€ 500 mn
Outstanding Amount	€ 500 mn	€ 597 mn	€ 500 mn	GBP 350 mn	€ 500 mn	€ 500 mn
Total outstanding amount	€ 3.0 bn					
Index Membership	Bloomberg MSCI Global Green Bond Index iBoxx Global Green, Social & Sustainable Bonds Index					



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ESG Programme

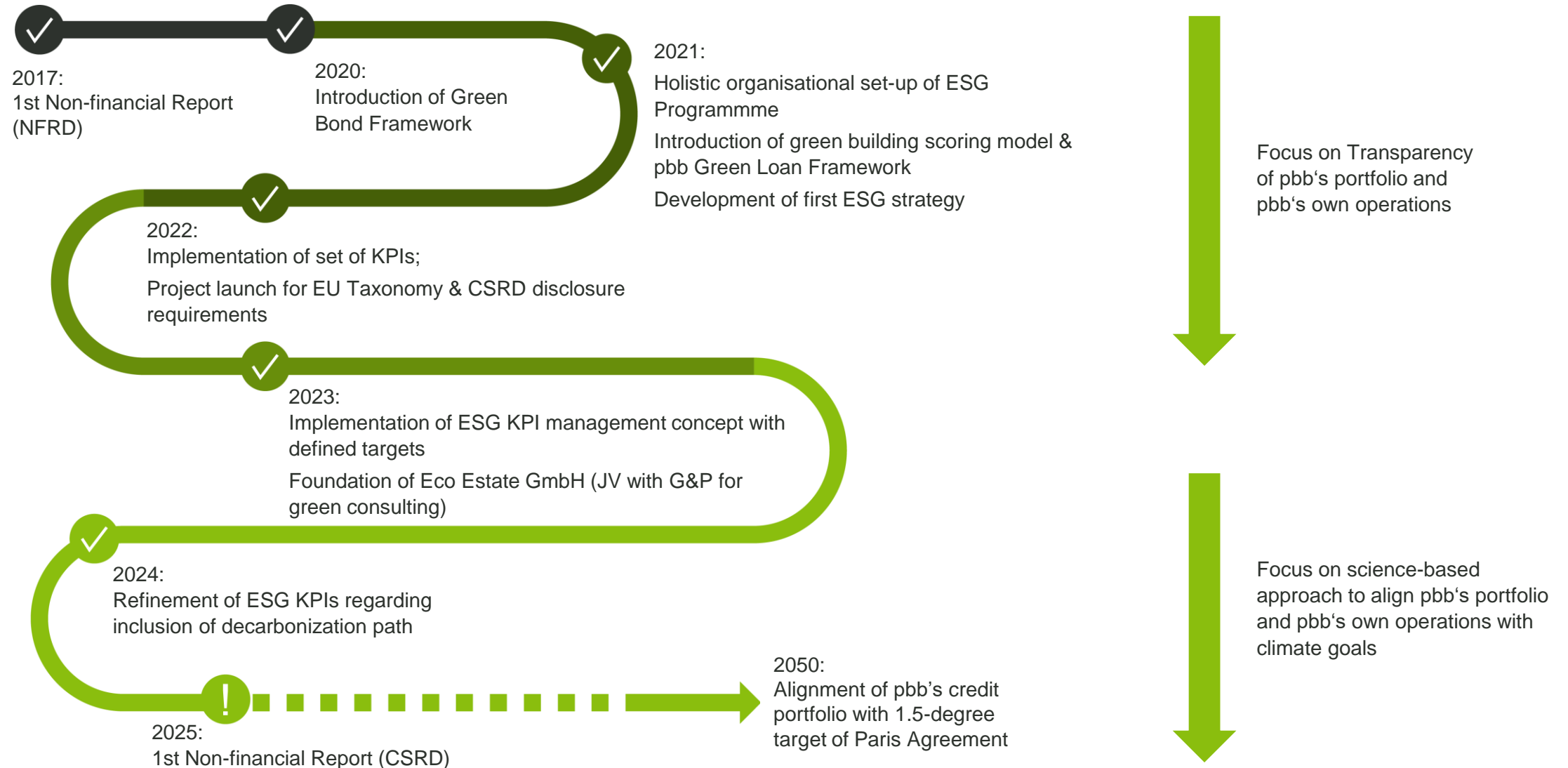


	2022	2023	Q1/2025
ISS ESG	C Prime	C Prime	C Prime
MSCI	AA	AAA	AAA
Moody's ESG Solutions	Score 44	Score 50	Score 50

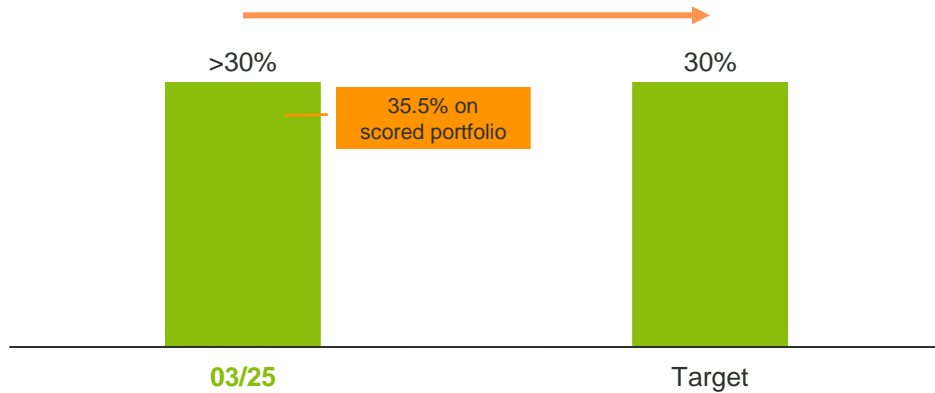
- ESG at core of pbb's strategy:
  - pbb can help to reduce the real estate sector's significant CO<sub>2</sub> impact
  - Green finance bank and transformation partner
  - Current KPIs set initial roadmap for establishing green products, science-based decarbonization path for aligning pbb's CRE portfolio with Paris 1.5° C target by 2050
- ESG risk structurally integrated in risk management landscape and overall business strategy
  - Comprehensive monitoring and steering of physical and transitional risks in REF exposure – portfolio & individual loan basis
  - ESG risk assessment integral part of credit process
- Comprehensive ESG program in place
  - Management Board responsibility – ESG targets part of remuneration
  - Operationally, all ESG dimensions covered with clear responsibilities assigned, e.g. EU taxonomy alignment for REF business
- Progress reflected in above industry-average ESG Ratings

# ESG

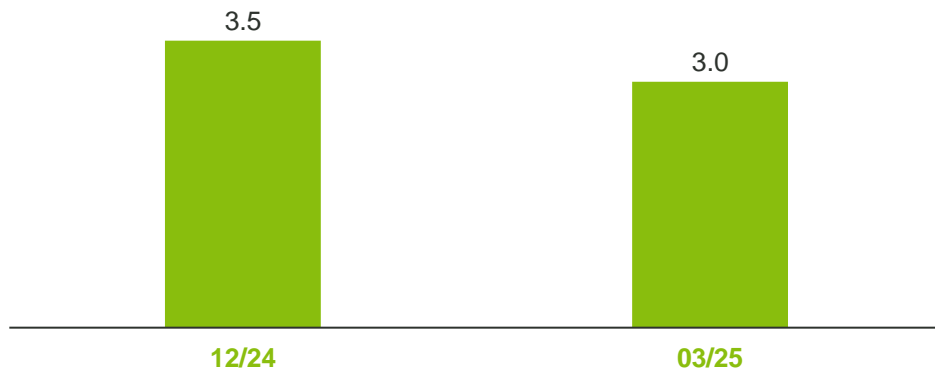
## pbb continues to execute on its strategy



### Green share of REF portfolio (commitments, green loan eligible assets, %)



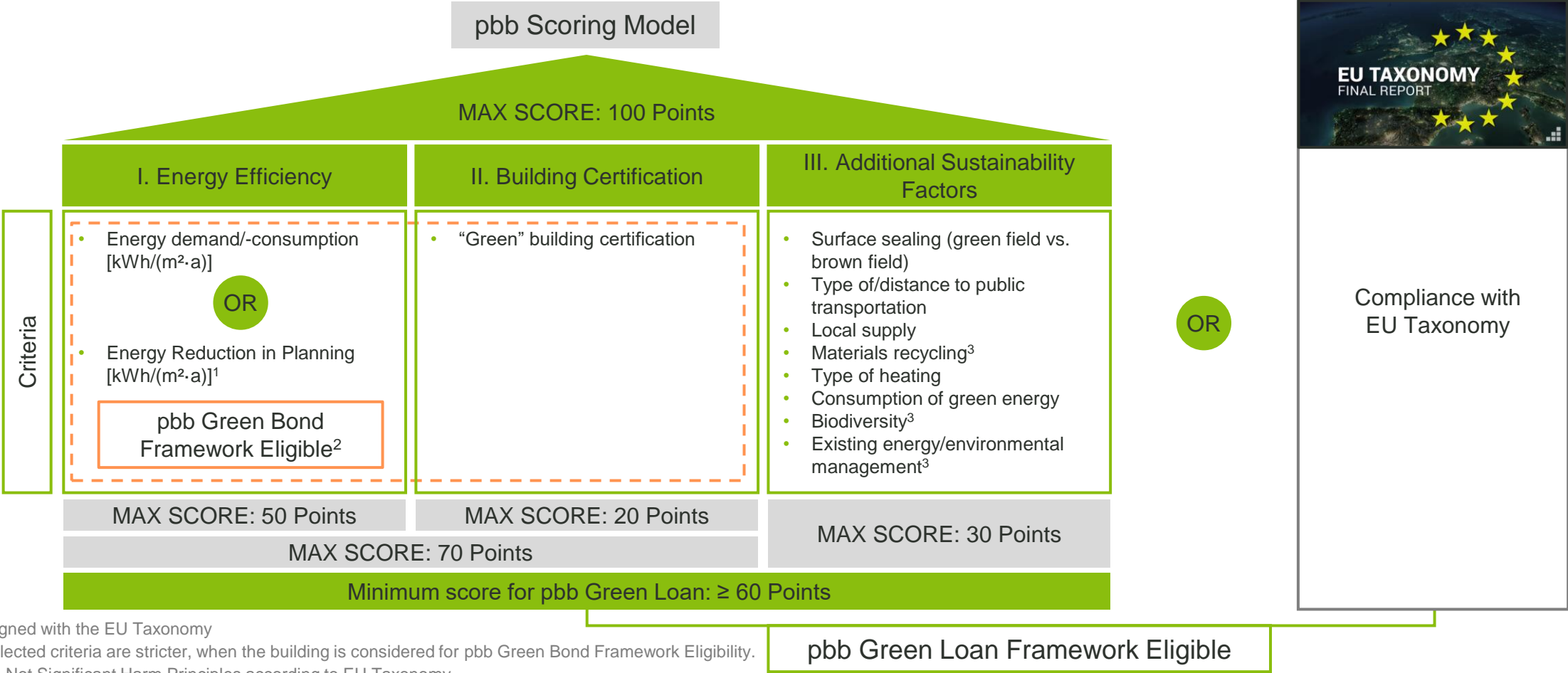
### Green Bonds (nominal volume, € bn)



- 85% of REF portfolio scored – scoring of remaining portfolio ongoing
- Green share of total REF portfolio currently at 30% resp. € 9.1 bn (35% based on scored portfolio of 85%) vs. target of >30% for 2026

- pbb is a leading issuer of senior preferred green bonds in the European market
- Current headroom between green bond eligible loans and green bonds outstanding allows further green finance activities
- Maturity in 01/25 leads to reduction of Green Bond volume in Q1/25

pbb Green Loan Framework aligned with current regulatory and market developments –  
specific metrics defined for each criterion



Last Second Party Opinion & External Review by S&P Global (Shade of Green: Light Green)



- S&P Global provided the Second Party Opinion on pbb's Green Bond Framework and related policies. The most recent framework was published in March 2023
- S&P Global also provided the last annual independent review of pbb's [Green Bond Impact Report](#) in February 2025.
- pbb publishes all reports [here](#).

**Deutsche Pfandbriefbank AG (pbb)**  
**External Review of Green Bond Impact Report 2024**

February 12, 2025

This report was produced by Shades of Green using Shades of Green Methodology. On December 1, 2022, S&P Global acquired Shades of Green from CICERO.

Shades of Green has reviewed pbb's Green Bond Impact Report 2024 ("Report"). We review against pbb's Green Bond Frameworks' eligibility criteria (dated March 2020, the "2020 Framework" and May 2023, the "2023 Framework", together the "Frameworks"), and impact metrics for relevance and transparency.

**We consider that allocations align with the Frameworks' criteria and that the Report utilizes relevant and sufficiently transparent impact metrics. We moreover consider the Report aligns with the core principles and recommendations contained in ICMA's Handbook – Harmonized Framework for Impact Reporting (June 2023).<sup>1</sup>**

**Project allocation**  
Allocations align with the Frameworks' eligibility criteria. pbb reports on its green bond asset pool as per 30 November 2024. At this date, the green bond asset pool totaled approximately EUR 5.52 billion, exceeding the amount of outstanding green bonds (EUR 3.47 billion). Six green bonds are outstanding under the 2020 Framework and one green bond is outstanding under the 2023 Framework.

The green bond asset pool consists of green loans provided in respect of various building types. The 2023 Framework has tighter eligibility criteria than the 2020 Framework. According to pbb, green loans included in the green bond asset pool before May 2023 satisfy the 2020 Framework's eligibility criteria relating to energy performance, while, since its publication in May 2023, all green loans added to the green bond asset pool satisfy the 2023 Framework's eligibility criteria.

The Frameworks each received an overall Light Green in our Second Party Opinions.<sup>2</sup> Both moreover contained only one project category: green buildings. While the eligibility criteria tightened in the 2023 Framework compared to the 2020 Framework, in each case the project category received a Light Green shading. All proceeds have therefore necessarily been allocated under Light green project categories.

**Impact metrics**  
The Report utilizes relevant and sufficiently transparent impact metrics. Impacts are reported on the green bond portfolio as per 30 November 2024 and the Report includes impacts for each of the Frameworks' example metrics.

The most prominent impact reported is estimated annual reduced/avoided GHG emissions (tCO<sub>2</sub>e), calculated and reported in the same way as in previous Reports – we consider this a strength. Reduced/avoided emissions is a common and relevant metric for green buildings and is complemented by energy performance figures and additional information in the Report. –In addition, pbb reports avoided emissions by every EUR 1 million of issued

<sup>1</sup> ICMA Handbook  
<sup>2</sup> pbb - SPO (2020); pbb - SPO (2023)

External Review of pbb's Green Bond Impact Report 2024

**S&P Global**  
Ratings

Powered by legacy Shades of Green

**Appendix 1 - Detailed Review**

Category	Description	Review against framework criteria	Impact Metrics	Relevance of metrics	Transparency considerations
Green Buildings	Investments in buildings which satisfy the eligibility criteria in the Frameworks	<b>No discrepancies identified</b> <ul style="list-style-type: none"><li>The eligible green pool asset consists of green loans included under differing eligibility criteria. Prior to May 2023, green loans had to satisfy the 2020 Framework; since May 2023, they satisfy the 2023 Framework.</li><li>According to pbb, proceeds raised under the 2020 Framework satisfy that Framework's energy performance criteria. All proceeds raised under the 2023 Framework have currently been allocated to existing buildings constructed prior to 2021 and satisfy the corresponding energy performance criteria.</li><li>The Report sets out the energy performance of each property to substantiate it aligns with the relevant Framework's eligibility criteria.</li></ul>	<ul style="list-style-type: none"><li>Estimated ex-ante annual reduced/avoided GHG emissions in tons CO<sub>2</sub>e.</li></ul>	<ul style="list-style-type: none"><li>Metric provides a good indication of the environmental impact of the investment.</li><li>The metric is commonly used in green bond reporting and is in line with core indicators in the ICMA Handbook.</li></ul>	<ul style="list-style-type: none"><li>✓ pbb uses the same impact reporting methodology as in its previous Report – this is considered a strength.</li><li>✓ The ambition of each building depends on its performance compared to the regulatory requirements in the jurisdiction. pbb's use of country specific benchmarks helps with this to some extent, though note that PCAF benchmarks represent the emissions of standard properties in a specific market.</li><li>✓ pbb is transparent on its overarching methodology, though it does not set out line by line calculations or emission factors which</li></ul>

External Review of pbb's Green Bond Impact Report 2024

# Green Bond – Reference Portfolio

## Preliminary Impact Reporting based on current portfolio

Carbon Impact Figures

Main building type	Carbon Emissions of heating & electricity (kgCO <sub>2</sub> /m <sup>2</sup> /year)	Energy Demand Baseline (kWh/m <sup>2</sup> /year)	Emission Factor (kgCO <sub>2</sub> /kWh)	Carbon Emission Benchmark (kgCO <sub>2</sub> /m <sup>2</sup> /year)	Carbon Savings (kgCO <sub>2</sub> /m <sup>2</sup> /year)	Total Carbon Savings (tCO <sub>2</sub> /year)	Financed Carbon Savings (tCO <sub>2</sub> /year)
Building 1	EPC	Local average	Local energy mix	EDB x EF	CEB - CE	CS x Area	TCS x pbb financing share
Total						XXX	XXX

pbb Green Bond Carbon Impact: 37,766 tCO<sub>2</sub>/year

Carbon impact assessment methodology

- pbb estimates the carbon impact of its Green Bond Assets portfolio on a line by line basis
- pbb collects the carbon emission intensity for each building from its Energy Performance Certificates (EPCs)
- If carbon emissions are not included in the EPC, energy demand figures are translated to carbon emissions via applicable emission factors for heating (sources: GEG 9 – German building energy law) and electricity (source: European Environment Agency)
- The benchmark is the average energy demand by type of use in specific locations from PCAF (Partnership for Carbon Accounting Financials). (<https://carbonaccountingfinancials.com/about>). PCAF published new values in 2023. Hence, the benchmarking can be conducted with recent data.

As of	Outstanding nominal amount in the potential Green Portfolio (€ mn)	No. of Green Buildings	Total floor area (m²)	Carbon savings - pbb financing share (tCO <sub>2</sub> /year)	Carbon savings - pbb financing share (tCO <sub>2</sub> /€ 1mn)
05/2025	~5,615	202	~3.8 mn	~37,700	~6.7



# Green Bond – Reference Portfolio

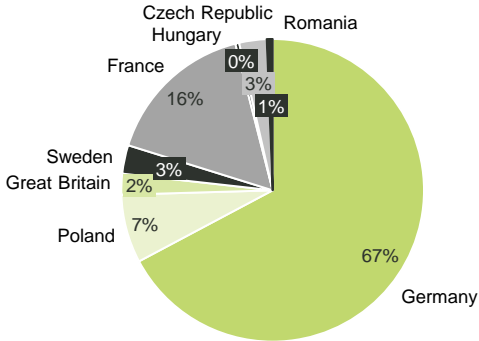
Reference Portfolio: approx. € 5.6 bn as of 05/2025

**Portfolio** consisting of ~ € 5.6 bn.  
Portfolio will change over time  
Most recent available data from Deepki used to assess top-15% criterion

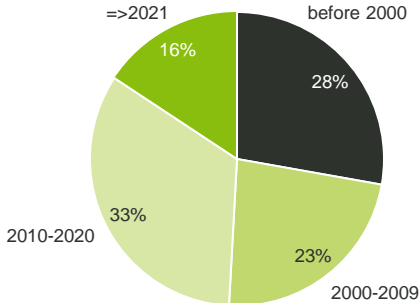
Process for **recording the criteria** of the overall portfolio established:

- Recording of all properties of the new business
- Recording of the already existing portfolio as part of the regular monitoring process

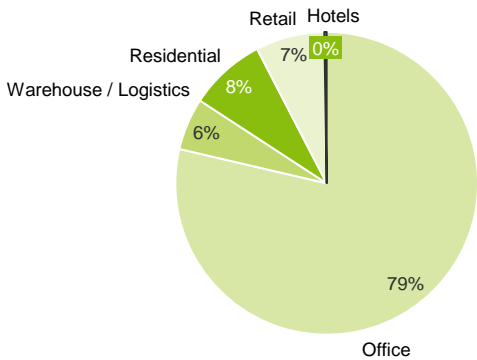
**Breakdown by regions (€ mn)**



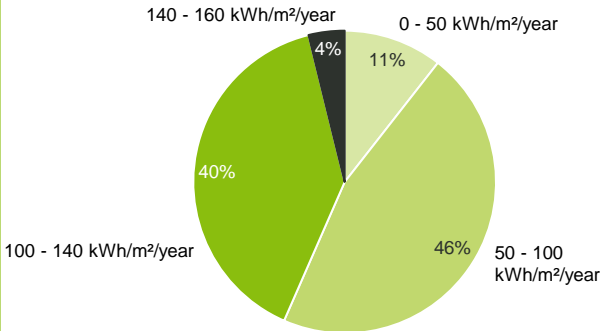
**Breakdown by year of construction (€ mn)**



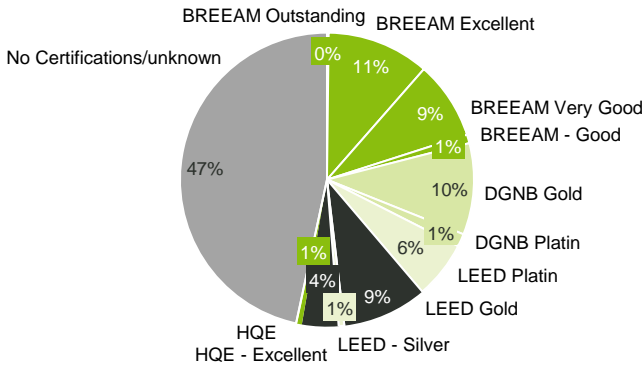
**Breakdown by property type (€ mn)**



**Breakdown by final energy consumption (€ mn)**



**Breakdown by green certifications (€ mn)**



**Top 15% Criterion (for buildings built before 2021)**

