

Green Bond Investor Presentation

November 2021

Green Bond Senior Preferred Benchmarks

ISIN	DE000A3H2ZX9	DE000A3T0X22
Issue Rating	A- (S&P)	A- (S&P)
Second Party Opinion	Cicero	Cicero
Coupon	0.10%	0.25%
Re-offer Spread	MS +55 bp	MS +48 bp
Value Date	01.02.2021	27.10.2021
Maturity	02.02.2026	27.10.2025
Issue Size	€ 500 mn	€ 500 mn



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Agenda

1. Business Model & Strategy

2. ESG within pbb

- 2.1. ESG governance and strategy
- 2.2. ESG Program
- 2.3. Sustainable Finance

3. Green Bond

- 3.1. Green Bond Framework
- 3.2. Second Party Opinion
- 3.3. Reference Portfolio

4. CO₂ Footprint

5. ESG Ratings

Business Model & Strategy

Leading commercial real estate lender in Europe, complemented by the US



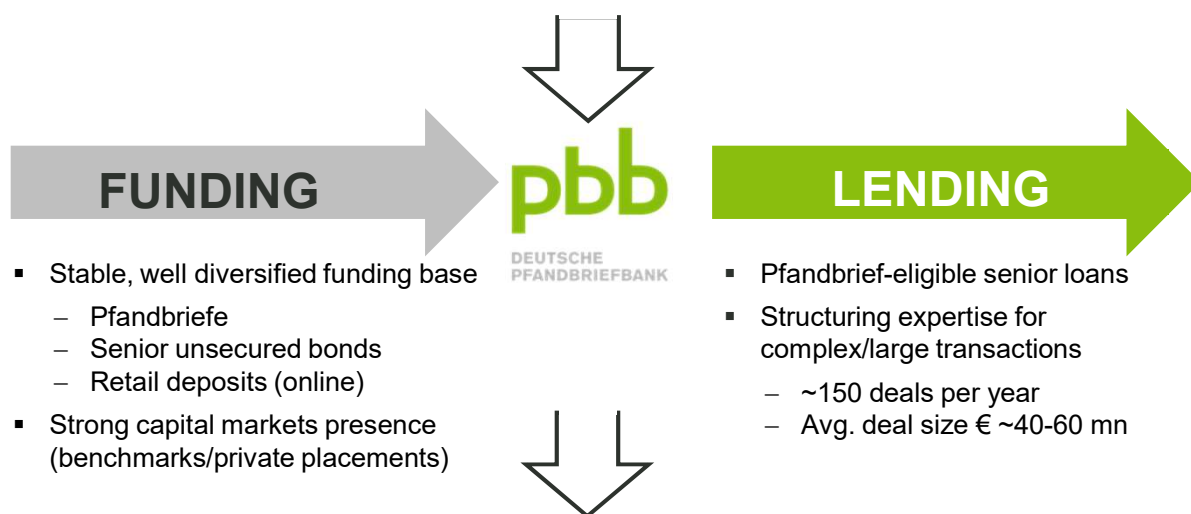
USPs

- Specialised on-balance sheet lender with extensive placement capabilities
- Strong franchise with long-standing client relationships and local presence with 10 branches/rep offices in Europe and the US
- Conservative lending standards and focus on risk management
- Pfandbrief is main funding instrument

Key figures

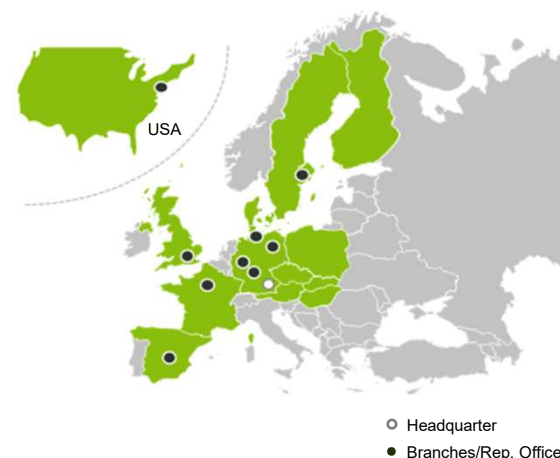
(IFRS, 30/09/2021)

Total assets	€ 58.8 bn
Total equity	€ 3.4 bn
RWA	€ 18.1 bn
CET1 ratio ¹	14.9%
Leverage ratio ¹	5.7%
RoE before taxes	7.7%
FTE	782



Value Proposition for Debt Investors

- Considerable MREL buffer
- Strong capital base
- High quality cover pools
- High portfolio quality and risk standards
- Strong operating performance



¹ unaudited, excl. interim result

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ESG within pbb – ESG governance and strategy

pbb's ESG governance and strategy provide for holistic approach with clearly assigned Board responsibility (1/3)

ESG Governance

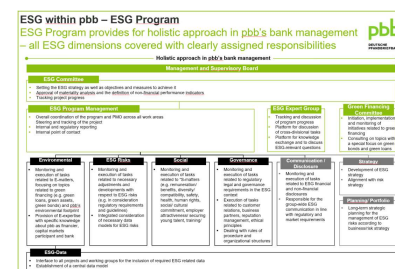
General

- Overall **governance framework** with **high standards** applied
 - Law-abiding conduct, responsible corporate governance and adherence to ethical principles considered **essential prerequisites**
 - General governance framework defined by **code of conduct** and **human rights policy**, providing non-negotiable standards to comply with, complemented by **code of conduct for suppliers**
 - Governance structure** with high standard **monitoring and control mechanisms**



ESG Program

- Comprehensive ESG Program** in place with sound governance structure, **covering all ESG dimensions**
 - Clearly assigned **Board responsibility**
 - Management Board** and **Supervisory Board** involvement
 - ESG performance targets** part of variable compensation
 - Central program management** accompanied by relevant **committees**
 - Operationally, **all ESG dimensions covered** with **clear responsibilities assigned**



ESG within pbb – ESG governance and strategy

pbb's ESG set-up and strategy provide for holistic approach with clearly assigned Board responsibility (2/3)



ESG Strategy

Self-conception

Materiality

SDGs

Paris Climate Goals

Sustainable Finance

ESG Risk

- **Sustainability** defined as self-conception, that own actions provide an essential contribution to securing long-term future and to consider the consequences for all stakeholders and the environment
- Material topics and aspects identified through **materiality analysis**, including stakeholder feedback
- Sustainability strategy also aligned to UN **Sustainable Development Goals (SDGs)**, commitment to further relevant **initiatives** envisaged
- Clear **strategic commitment** on active contribution towards the goals of the **Paris Agreement** and **transition to low-carbon economy**
- As to pbb's business model, inter alia **strong focus on Sustainable Finance** and contribution to a **more climate-efficient real estate sector**
 - Systematic **collection of sustainability criteria** of financed properties **integral part of pbb's credit process**
 - **Green Bond Framework** in place – first Green Bond issued in Q1 2021
 - **Green Loan Framework** in place – Green Loan as new credit product since October 2021
- ESG risks **structurally integrated** in Risk Management landscape and overall Business Strategy – current focus on climate risks
- Climate-related risks include both, **physical and transitional risks** from the transformation towards a low carbon economy

Topics	Aspects
Client orientation	Client orientation
Industry-specific aspects	Sustainable financing solutions
Corporate governance	Risk management
Social matters	Compliance
	Human rights
	Considering social implications of business partner choices
Employee matters	Remuneration and employee benefits
	Working environment
	Training and continuing professional development



PARIS2015
UN CLIMATE CHANGE CONFERENCE
COP21-CMP11



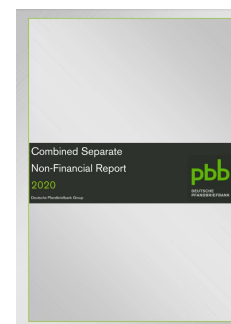
ESG within pbb – ESG governance and strategy

pbb's ESG set-up and strategy provide for holistic approach with clearly assigned Board responsibility (3/3)

Disclosure

Non- financial Reporting

- **Non-financial report** published since 2017 according to Non-Financial Reporting Directive (NFRD) / CSR Directive Implementation Act (CSR-RUG)
- Reporting obligations according to **EU Taxonomy Article 8 Delegated Act** (incl. Green Asset Ratio – GAR) as well as **Corporate Sustainability Reporting Directive (CSRD)** in preparation
- Transparency **significantly increased** in recent years – **further expansion of reporting scope** envisaged



ESG within pbb – ESG Program

ESG Program provides for holistic approach in pbb's bank management
– all ESG dimensions covered with clearly assigned responsibilities

Holistic approach in pbb's bank management

Management and Supervisory Board

ESG Committee

- Setting the ESG strategy as well as objectives and measures to achieve it
- Approval of materiality analysis and the definition of non-financial performance indicators
- Tracking project progress

ESG Program Management

- Overall coordination of the program and PMO across all work areas
- Steering and tracking of the program
- Internal and regulatory reporting
- Internal point of contact

ESG Expert Group

- Tracking and discussion of program progress
- Platform for discussion of cross-divisional tasks
- Platform for knowledge exchange and to discuss ESG-relevant questions

Green Financing Committee

- Initiation, implementation and monitoring of initiatives related to green financing
- Consulting on topics with a special focus on green bonds and green loans

Environmental

- Monitoring and execution of tasks related to E-matters, focusing on topics related to green financing (e.g. green loans, green assets, green bonds) and pbb's environmental footprint
- Provision of E-expertise with specific knowledge about pbb as financier, capital markets participant and bank

ESG Risks

- Monitoring and execution of tasks related to necessary adjustments and developments with respect to ESG risks (e.g. in consideration regulatory requirements and guidelines)
- Integrated consideration of necessary data models for ESG risks
- In line with ECB's expectations, current focus on climate risks

Social

- Monitoring and execution of tasks related to "S-matters (e.g. remuneration/ benefits, diversity/ compatibility, safety, health, human rights, social/ cultural commitment, employer attractiveness/ securing young talent, training/

Governance

- Monitoring and execution of tasks related to regulatory legal and governance requirements in the ESG context
- Execution of tasks related to customer relations, business partners, reputation management, ethical principles
- Dealing with rules of procedure and organizational structures

Communication / Disclosure

- Monitoring and execution of tasks related to ESG financial and non-financial disclosures
- Responsible for the group-wide ESG communication in line with regulatory and market requirements

Strategy

- Development of ESG strategy
- Alignment with risk strategy

Planning/ Portfolio

- Long-term strategic planning for the management of ESG risks according to business/risk strategy

ESG-Data

- Interface to all projects and working groups for the inclusion of required ESG related data
- Establishment of a central data model
- Central control of data procurement

ESG within pbb – Sustainable Finance

Systematic collection of sustainability criteria of financed properties
integral part of pbb's credit process

Criteria

Energy demand/-consumption [kWh/(m²·a)]

“Green” building certification

Exclusion criteria for controversial customers and building use according to existing business strategy



Energy Reduction in Planning [kWh/(m²·a)] *

Surface sealing (green field vs. brown field)

Type of/distance to public transportation

Local supply

Materials recycling**

Type of heating

Consumption of green energy

Biodiversity**

Existing energy/ environmental management**

Green Bond

Green Loan

- **Green Bond Framework** developed in line with market standard
- Documentation based on **ICMA Green Bond Principles**
- **Second Party Opinion** by Cicero Shades of Green (Light Green)
- Implementation completed in first half of 2020 and **first Green Bond issued in Q1 2021**

- No established standard for green loans on the market yet – therefore, **Green Loan Framework** aligned with current regulatory (EU Taxonomy) and market developments
- Documentation based on **LMA Green Loan Principles**
- pbb Green Loan product offered **since October 2021**

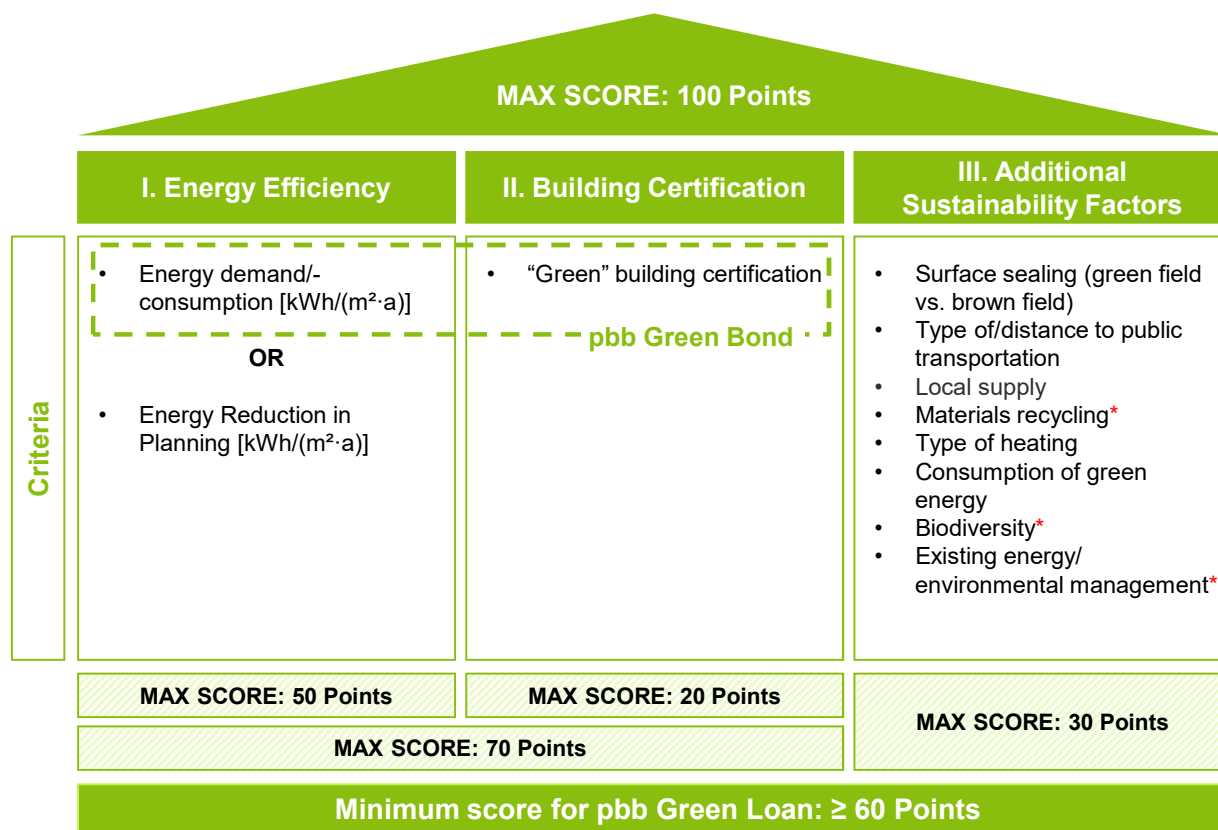
* Aligned with the EU Taxonomy

* **Do Not Significant Harm** Principles according to EU Taxonomy

ESG within pbb – Sustainable Finance

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

pbb Scoring Model



EU Taxonomy



OR

pbb Green Loan

* Aligned with the EU Taxonomy
* Do Not Significant Harm Principles according to EU Taxonomy

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Green Bond – Green Bond Framework

Green Bond Framework developed in line with market standard
– documentation based on ICMA Green Bond Principles (1/2)

Aligned with the 2018 Green Bond Principles and its four components

<p>1) Use of proceeds</p>	<p>Green Building Certification</p> <p>Eligible Green Real Estate Assets have to be certified against:</p> <ul style="list-style-type: none"> ▪ BREEAM: ≥ “Very Good” ▪ LEED: ≥ “Gold” ▪ DGNB: ≥ “Gold” ▪ HQE: ≥ “Very High” 	<p>Energy Efficiency Performance</p> <p>Eligible Green Real Estate Assets have to demonstrate a Final Energy Consumption:</p> <ul style="list-style-type: none"> ▪ Office, Hotel and Retail: < 160 kWh/m² p.a. ▪ Residential: < 100 kWh/m² p.a. ▪ Logistics: < 65 kWh/m² p.a. 	<p>Exclusion criteria</p> <ul style="list-style-type: none"> ▪ Building use: production of weapons, pesticides, nuclear energy, fossil fuels or pornography and sex work. ▪ Concentration of tenants with an unacceptable environmental impact. ▪ Substantial other negative impact on the environment (e.g. polluted areas, green field construction in protected areas).
<p>2) Process for Project Evaluation and Selection</p>	<ul style="list-style-type: none"> ▪ Green Bond Committee to manage the process for project evaluation and selection. ▪ Committee composed by representatives from the following business areas: <ul style="list-style-type: none"> – Communications – Property Analysis & Valuation – Portfolio Analysis – Treasury ▪ Committee responsible of: <ul style="list-style-type: none"> – Monitor the potential Eligible Green Loans against pbb’s standard credit process and the eligibility criteria – Allocate and Monitor the portfolio of Eligible Green Loans against the Green Bond funding – Coordinate reporting 		

Green Bond – Green Bond Framework

Green Bond Framework developed in line with market standard – documentation based on ICMA Green Bond Principles (2/2)

3) Management of Proceeds	<ul style="list-style-type: none"> ▪ Management of the net proceeds on a portfolio basis. ▪ Eligible Green Loans already exists on pbb's balance sheet at issuance of a Green Bond (not booked in a separate portfolio, but earmarked in the IT systems). ▪ Treasury business area will monitor that an amount at least equivalent to the net proceeds will be used to finance or refinance the portfolio of Eligible Green Loans and that the amount of such Eligible Green Loans within the portfolio is higher than the net proceeds of the outstanding Green Bonds issued. ▪ If outstanding Green Bonds exceed the Eligible Green Loans (e.g. due to unexpected prepayments), pbb shall invest in Green Bonds fulfilling the ICMA Green Bond Principles if feasible. 		
4) Reporting	<ul style="list-style-type: none"> ▪ Reporting starting approximately one year after the first issuance and annually thereafter. ▪ Publicly available on pbb's website. 	Allocation reporting <ul style="list-style-type: none"> ▪ The total amount of outstanding Green Bonds issued. ▪ The total amount of Eligible Green Loans. ▪ Examples of assets financed or refinanced through the proceeds of the Green Bond. 	Impact reporting <p>Examples of output indicators:</p> <ul style="list-style-type: none"> ▪ Green Portfolio breakdown by year of construction / refurbishment (in %) ▪ Green Portfolio breakdown by EPC kWh / m² p.a. / Certification Type and Level <p>Examples of impact indicators:</p> <ul style="list-style-type: none"> ▪ Estimated ex-ante annual energy savings (in kWh / m² p.a.) ▪ Estimated annual reduced / avoided Green House Gas emissions (in tons of CO₂ equivalent)

Green Bond – Second Party Opinion

Second Party Opinion by Cicero Shades of Green (CICERO Light Green)



DEUTSCHE
PFANDBRIEFBANK

- CICERO Shades of Green provided the Second Party Opinion on pbb's Green Bond Framework and related policies.
- The Second Party Opinion document is available on pbb's website.
- CICERO Shades of Green will also provide an annual independent review of pbb's green bond reporting.

SHADES OF GREEN

Based on our review, we rate the pbb's green bond framework **CICERO Light Green**.

Included in the overall shading is an assessment of the governance structure of the green bond framework. CICERO Shades of Green finds the governance procedures in pbb's framework to be **Good**.

GREEN BOND PRINCIPLES

Based on this review, this Framework is found in alignment with the principles.



CICERO
Shades of
Green

Deutsche Pfandbriefbank AG Green Bond Second Opinion

April 28, 2020

Deutsche Pfandbriefbank AG ("pbb") is a bank specialized in real estate and public investment finance. pbb has its headquarter in Garching, Germany and has additional offices in the United Kingdom, France, Sweden, Spain and the United States. The issuer is one of the largest issuers in the Pfandbriefe market with an outstanding volume of approx. EUR 30 billion. Around 50% of pbb's assets are located in Germany.

pbb's green bond framework lists only green buildings as an eligible project category in accordance to the Green Bond Principles. pbb informed us that approximately 80-85% of proceeds are expected to be allocated to refinancing of existing buildings and 15-20% will be used for financing of new loans for existing buildings mainly in Poland, Germany, France, UK, Netherlands and Austria that either meet a minimum certification of LEED Gold (or equivalent) or absolute minimum energy consumption thresholds defined by pbb's framework that applies to all jurisdictions of pbb's business activities. pbb excludes financing of outdated/inefficient heating systems, which excludes, e.g., oil based heating, but could include other fossil fuel heating such as natural gas based heating sources.

The issuer is in the process of rolling out a green loan system and to raise environmentally relevant data for all of its buildings. The issuer informed us that this framework provides a test case for the bank and that the framework is expected to be improved and tightened regarding its eligibility criteria over time. pbb will obtain an external review for its impact reporting.

pbb's framework does not exclude fossil fuel-based heating and could allow for financing or refinancing that reach minimum certification levels, but do not align with specific energy efficiency thresholds. In addition, pbb does not yet systematically assess climate related risks and has not yet implemented TCFD recommendations. It is the responsibility of the issuer and specifically pbb's green bond committee to ensure that green buildings exceed local regulations and ensure low-carbon impact and climate resilience of the buildings.

Based on the overall assessment of the project types that will be financed by the green bonds, governance and transparency considerations, pbb's green bond framework receives a **CICERO Light Green** shading and a governance score of **Good**. The framework would benefit from excluding fossil fuel based heat sources and adding additional requirements for eligible new loans such as low carbon transport access, higher certification levels, climate resilience as well as construction material considerations and construction emissions.

Second Opinion on pbb's Green Bond Framework

SHADES OF GREEN
Based on our review, we rate the pbb's green bond framework **CICERO Light Green**.

Included in the overall shading is an assessment of the governance structure of the green bond framework. CICERO Shades of Green finds the governance procedures in pbb's framework to be **Good**.



GREEN BOND PRINCIPLES
Based on this review, this Framework is found in alignment with the principles.



CICERO
Light Green

Green Bond – Reference Portfolio

Preliminary Impact Reporting

Carbon Impact Figures

Main building type	Carbon Emissions (kgCO ₂ /m ² /year)	Energy Demand Baseline (kWh/m ² /year)	Emission Factor (kgCO ₂ /kWh)	Carbon Emission Baseline (kgCO ₂ /m ² /year)	Carbon Savings (kgCO ₂ /m ² /year)	Total Carbon Savings (tCO ₂ /year)	Financed Carbon Savings (tCO ₂ /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: ~17,900 tCO₂/year

Carbon impact assessment methodology

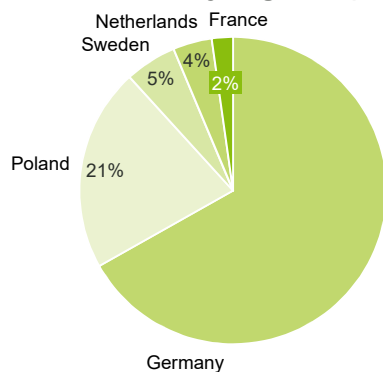
- pbb estimates the carbon impact of its Green Loan portfolio on a line by line basis
- pbb collects the carbon emission intensity for each building from its Green Certification reports or Energy Performance Certificates
- Green building certifications, the location and the type of use (residential/commercial) could be used as proxy to refine the collected data when necessary
- The baseline is the average energy by type of use in specific location from EU Entranze Project (<https://www.entranze.eu/>)
- Emission factors are derived from the energy mix consumed by buildings locally (source: local national statistics offices) and the carbon intensity of each energy type (source: IEA, <https://www.iea.org/> and AIB European Residual Mixes 2019, <https://www.aib-net.org/facts/european-residual-mix>, for electricity)

As of	Outstanding nominal amount in the potential Green Portfolio (€ mn)	No. of Green Buildings	Total floor area (m ²)	Carbon savings - pbb financing share (tCO ₂ /year)	Carbon savings - pbb financing share (tCO ₂ /€ 1mn)
13.11.2021	~1,195	123	~1,078,200	~17,900	~15.0

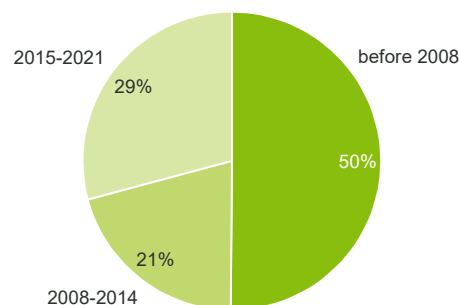
Green Bond – Reference Portfolio

Reference Portfolio: approx. € ~1.2 bn as of 11/2021

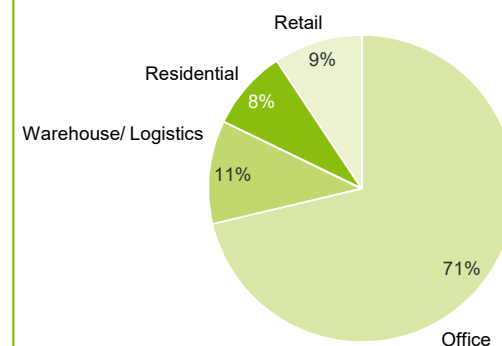
Breakdown by regions (€ mn)



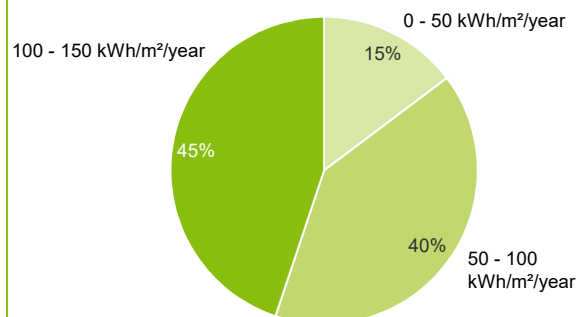
Breakdown by year of construction (€ mn)



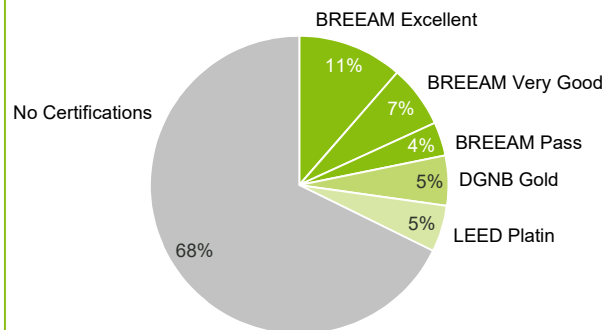
Breakdown by property type (€ mn)



Breakdown by final energy consumption (€ mn)



Breakdown by green certifications (€ mn)



- **Portfolio** consisting of ~ € 1,195 mn.
- Portfolio will change over time
- 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

Green Bond – Reference Portfolio

Examples of Eligible Green Assets

Project name:	West Gate
Location:	Wrocław, Poland
Year of Construction:	2015
Total Asset Value:	€ 41.3 mn
pbb financing amount:	€ 10.3 mn
pbb scoring model¹:	77 / 100



Short description:

The West Gate, completed in 2015, comprises of six over ground floors and two underground levels.² Hereby West Gate fully utilized the potential of certification, it combines excellent structural and material elements with sustainable and energy-efficient solutions.³ It has been awarded with the highest BREEAM rating of “Excellent” and has a final energy demand of 36.3 kWh/m² per year.⁴

Key tenants: Nokia, Deichmann, Aviva and Enel-Med.⁵

¹ The scoring model awards a maximum of 100 points, of which max. 50 points are rewarded for energy efficiency, max. 20 points for certifications and max. 30 points for other sustainability factors. If a building reaches at least 60 points, investors can obtain a Green Loan from pbb. ² According to Monitoring L3 2018 ³ Source: Echo Investment ⁴ Energy performance certificate ⁵ Source: Globalworth Poland

Green Bond – Reference Portfolio

Examples of Eligible Green Assets

Project name:	Ordnungsamt
Location:	Frankfurt, Germany
Year of Construction:	2009
Total Asset Value:	€ 162.0 mn
pbb financing amount:	€ 59.0 mn
pbb scoring model¹:	61 / 100



Short description :

The complex has a usable floor space of approx. 35,300 m² and is rented to the city of Frankfurt. It is well connected to public transport (tramway) and shops for daily supply are in the vicinity, making individual traffic solutions less relevant. Employees are able to use an in-house canteen which reduces possible plastic waste which might result from external lunch providers. The building has a comparatively low final energy demand of 62.1 kWh/m² per year and gets its energy by a heating pump.² It was built on a brownfield location which was used for industrial purposes in the past. A soil and ground water contamination caused by a metal processing company in the late 1980s was detected in 2002 and successfully rehabilitated until 2006.³

¹ The scoring model awards a maximum of 100 points, of which max. 50 points are rewarded for energy efficiency, max. 20 points for certifications and max. 30 points for other sustainability factors. If a building reaches at least 60 points, investors can obtain a Green Loan from pbb. ² Energy performance certificate. ³ According to Market- & Mortgage lending valuation 2020.

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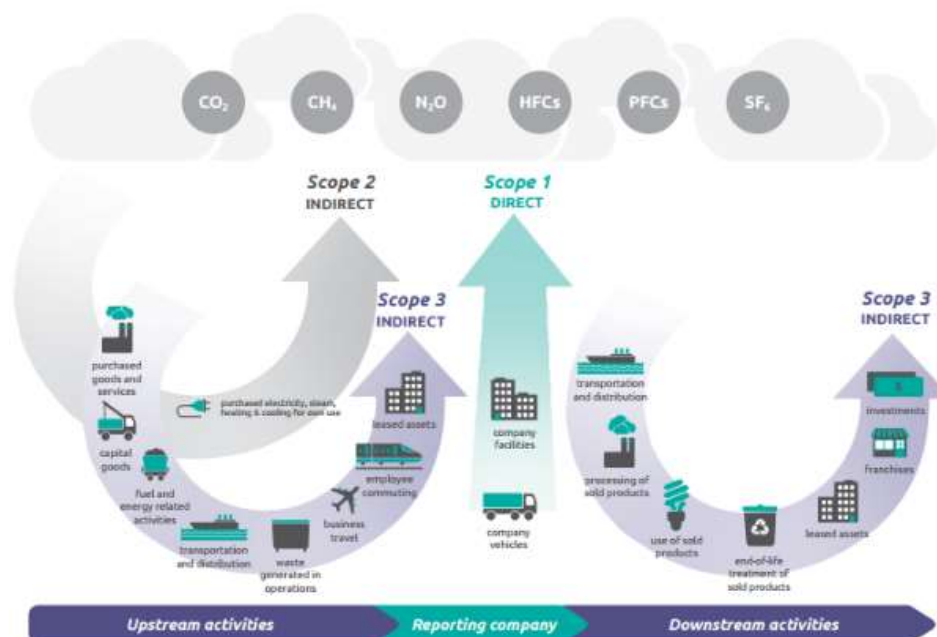
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CO₂ Footprint

Expansion of pbb's CO₂ footprint reporting in progress

Scopes of emission

(GHG Protocol)



- **Scope 1**
The emissions from owned or operated assets (e.g., emissions from a company's fleet of vehicles)
- **Scope 2**
The emissions from purchased energy
- **Scope 3**
The emissions from everything else (suppliers, distributors, product use, etc.)

pbb reporting

(Non-financial Report 2020)

Scope		in t CO ₂ ¹	CO ₂ Compensation
Scope 1	Company cars ²	387	Climate-neutral via certificates
Scope 2	Indirect emissions from purchased electricity	0	Renewable energy sources
Scope 3	Office consumer goods ³	8	
	Business travel	153	Climate-neutral via certificates
	Events (Annual Press Briefing, Analyst Conferences, virtual AGM)	2	Climate-neutral via certificates
		560	

¹ Only German locations

² Calculation based on the contractually agreed upon annual mileage

³ Only paper; calculation in accordance with <https://www.papiernetz.de/informationen/nachhaltigkeitsrechner/>

- Reporting of **CO₂ footprint constantly improved** in recent years
- **Expansion** of reporting scope envisaged

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ESG Ratings

Stable solid ESG ratings underpin continuous improvement

