

DZ HYP AG GREEN BOND CONSULTING 2025

Portfolio Assessment & Impact Reporting

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MANAGEMENT SUMMARY

Sustainable Finance Consulting for DZ HYP AG

INTRODUCTION

DZ HYP AG assigned Drees & Sommer with the sustainable finance consulting to fulfill the client's intent of performing a low carbon building portfolio assessment and environmental impact reporting for its green bond program.

PORTFOLIO ASSESSMENT

Verifying the client's set of eligibility criteria and delivered portfolio asset information forms the foundation of the portfolio assessment. The aim of the portfolio assessment is to enable an identification of "green" assets which comply with the set of established green bond eligibility criteria.

Assets cover the low carbon buildings classes residential, and non-residential (office, retail, logistics, hotel) in Germany and do fulfill DZ HYP AG's sustainable use of proceeds, according to the green bond framework.

For each asset, key information such as the certified building energy performance, the energy carriers for heating (e. g. district heating, gas, oil, heat pump) and electricity were applied to reference building area-specific final and or primary energy use.

REFERENCE BENCHMARKS (ENERGY & CO₂)

The environmental impact measures the operational energy and carbon emissions savings of the green bond eligible assets in the portfolio compared to a national reference specific to each asset class. All sources and applied values consist of public-accessible and building-usage representative data from official German national institutions.

To establish reference benchmarks for energy and CO₂, the existing building stock is matched with the corresponding building energy legislative codes and requirements to identify period of years of construction with typical reference building energy performances.

Identifying the distribution of energy carriers for heating and electricity enables the determination of building-stock weighted national reference primary energy conversion factors and operational carbon emissions equivalents for each assessed residential and non-residential asset class.

Based on the typical reference building energy performance, the converted reference benchmarks with primary energy and carbon emissions are established to represent an average typical building performance in Germany representing the national existing building stock information.

ENVIRONMENTAL IMPACT

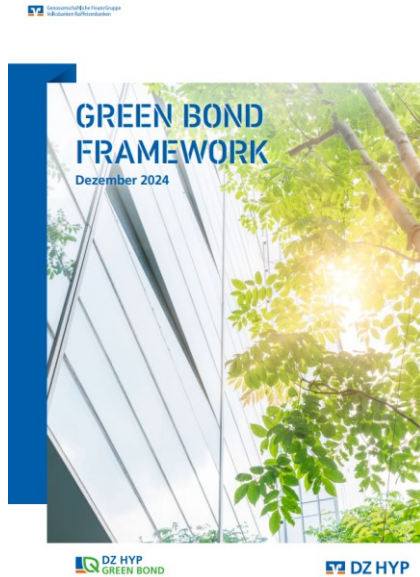
The difference in environmental (energy & CO₂) performance between the green asset of the client's portfolio and the national reference benchmark represents the energy savings and the carbon emissions savings, highlighting the environmental impact of the portfolio impact reporting.



For assets without an actual CO₂-performance, the final energy savings are being transformed into carbon emissions savings based on the building-stock weighted national reference carbon emissions equivalents.

This following documentation summarizes the key results of the portfolio assessment, the impact reporting and the national reference benchmarks as of February 2025.

DZ HYP Use of Proceeds

Selection Criteria for the Green Pfandbrief



Contribution to the EU's environmental objectives and economic activities	Use of Proceeds	Criteria for Eligibility for the Green Pfandbrief	Contribution to the UN SDGs
Economic activities of the EU: 7.1 Construction of new buildings 7.2 Renovation of existing buildings 7.7 Acquisition and ownership of buildings	New construction of commercial and residential buildings	NZEB-10 percent The building's primary energy demand is at least 10 per cent below the threshold values set in the national measures for implementing Directive 2010/31/EU for nearly zero-energy buildings. This is verified by an energy performance certificate.	 
	Renovation of commercial and residential buildings	30 per cent reduction in energy demand respectively consumption Renovation/refurbishment will reduce energy demand respectively consumption by at least 30 per cent. The reduction will be demonstrated either by energy performance certificates issued in accordance with the GEG before and after the renovation/refurbishment work or by comparable calculations respectively measurements. The energy demand or consumption after the work must reach a level that is in line with the EU's climate targets.	
	Acquisition and ownership of commercial and residential buildings	that were constructed before 31st December 2020: EPC energy efficiency class A The building has an energy certificate that corresponds to at least energy efficiency class A. Top 15-percent The building is among the top 15 per cent of the national or regional building stock in terms of primary energy demand or consumption. The results of the study by Drees and Sommer on the top 15 per cent of the German real estate portfolio, which was commissioned and published by the Association of German Pfandbrief Banks (vdp), are used for the assessment. DGNB-Certification The building has been certified by the German Sustainable Building Council (DGNB) with either 'Gold' or 'Platinum'.	
	that were constructed after 31st December 2020:	NZEB-10 percent The building's primary energy demand is at least 10 per cent below the threshold values set in the national measures for implementing Directive 2010/31/EU for nearly zero-energy buildings. This is verified by an energy performance certificate.	



SUSTAINABLE FINANCE

Summary – Impact Reporting

Low Carbon Buildings	Year of issuance	Type	Signed amount ^a	Reference area ^b	Share of total portfolio financing ^c	Annual final energy savings ^d	Annual CO ₂ emissions avoidance ^e	Financing share annual final energy savings ^f	Financing share annual CO ₂ emissions avoidance ^g
<i>Unit</i>	<i>[yyyy]</i>	<i>[-]</i>	<i>[EUR]</i>	<i>[m²]</i>	<i>[%]</i>	<i>[MWh/year]</i>	<i>[tCO₂/year]</i>	<i>[MWh/year]</i>	<i>[tCO₂/year]</i>
DZ HYP AG	2024	Low Carbon Building	9,110,067,494	12,041,622	100.0	905,764	242,371	357,232	95,034
Offices	2024	Low Carbon Building	2,656,843,270	2,978,437	29.2	272,873	72,577	101,330	26,873
Residential SFH			1,408,633,916	1,270,096	15.5	84,933	18,855	37,082	8,232
Residential MFH			3,382,295,932	5,030,317	37.1	330,157	73,243	135,495	30,033
Retail Food			204,642,274	261,124	2.2	57,979	22,179	26,468	10,303
Retail Non-Food			922,957,888	1,369,944	10.1	77,790	27,703	25,009	8,824
Logistics			221,558,355	896,488	2.4	62,363	21,177	23,068	7,782
Hotels			313,135,859	235,217	3.4	19,668	6,638	8,780	2,987

^a Legally committed signed amount by the issuer for the portfolio or portfolio components eligible for green bond financing.

^b Reference area based on national definition, e.g. energy performance certificate based, net floor conditioned area.

^c Portion of the total portfolio cost that is financed by the issuer.

^d Final energy savings calculated using the difference between the top 15% and the national building stock benchmarks.

^e Greenhouse gas emissions avoidance determined by multiplying the final energy savings with the carbon emissions intensity.

^f Final energy savings adjusted with the financing share.

^g Greenhouse gas emissions avoidance adjusted with the financing share.



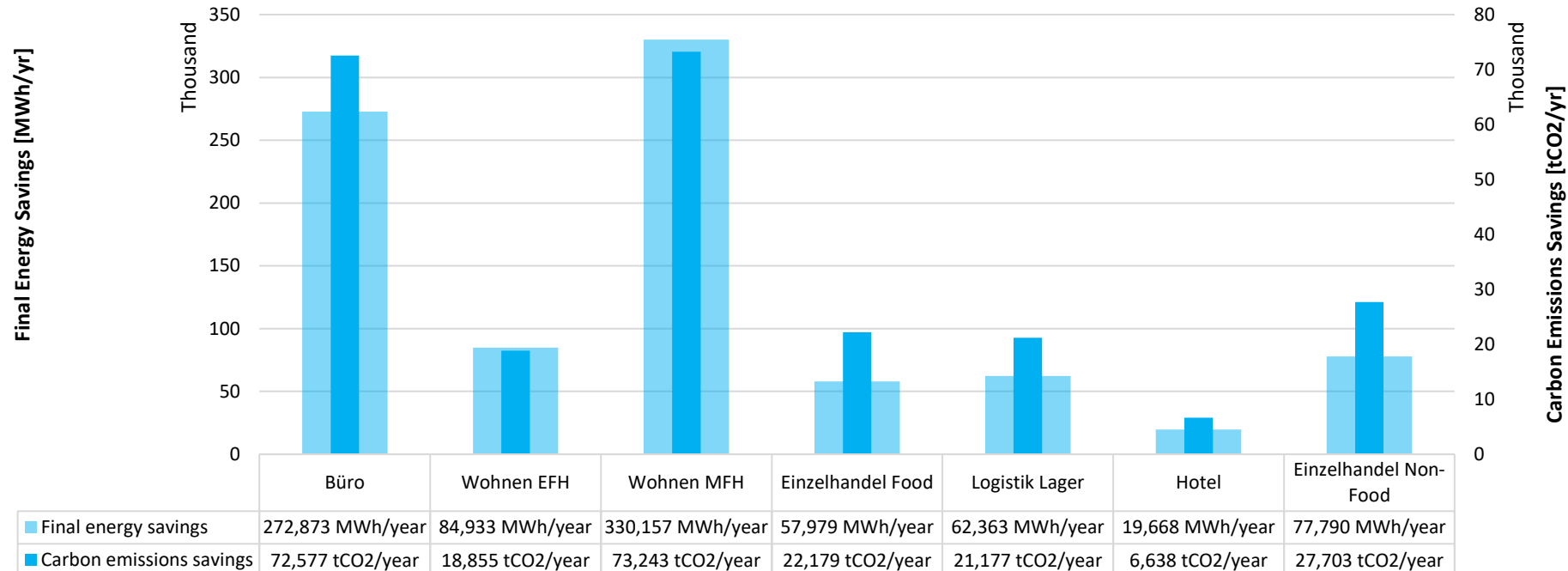
SUSTAINABLE FINANCE

Summary – Impact Reporting

Green Bond Portfolio:

- Exposure: ≈ 9 bn EUR
- Financing share energy savings: 357,232 MWh/year
- Financing share carbon emissions savings: 95,034 tCO₂/year

Assessed Portfolio - Environmental Savings abs.

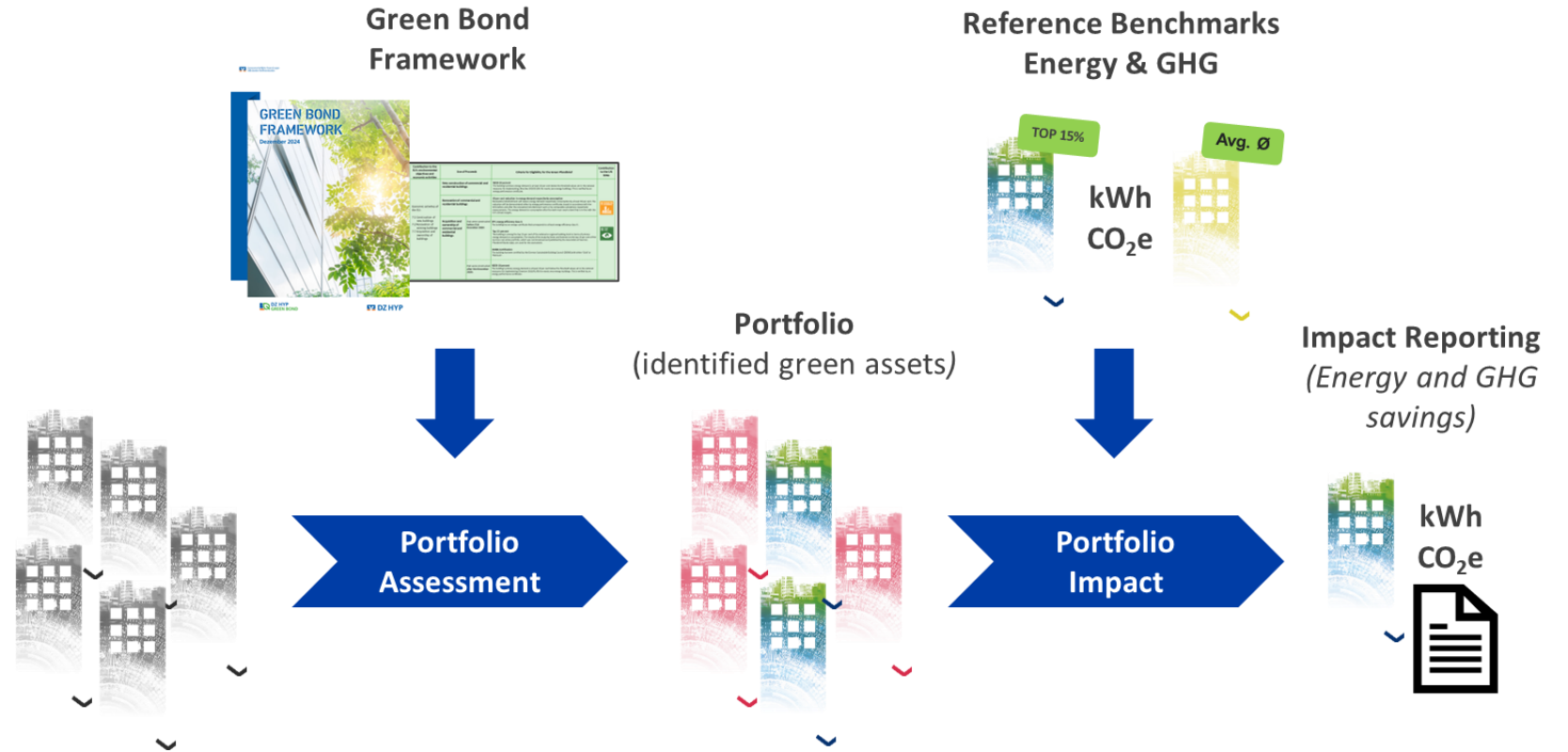




MILESTONES & PROCESS

Workstream – Focus Portfolio Assessment & Impact Reporting

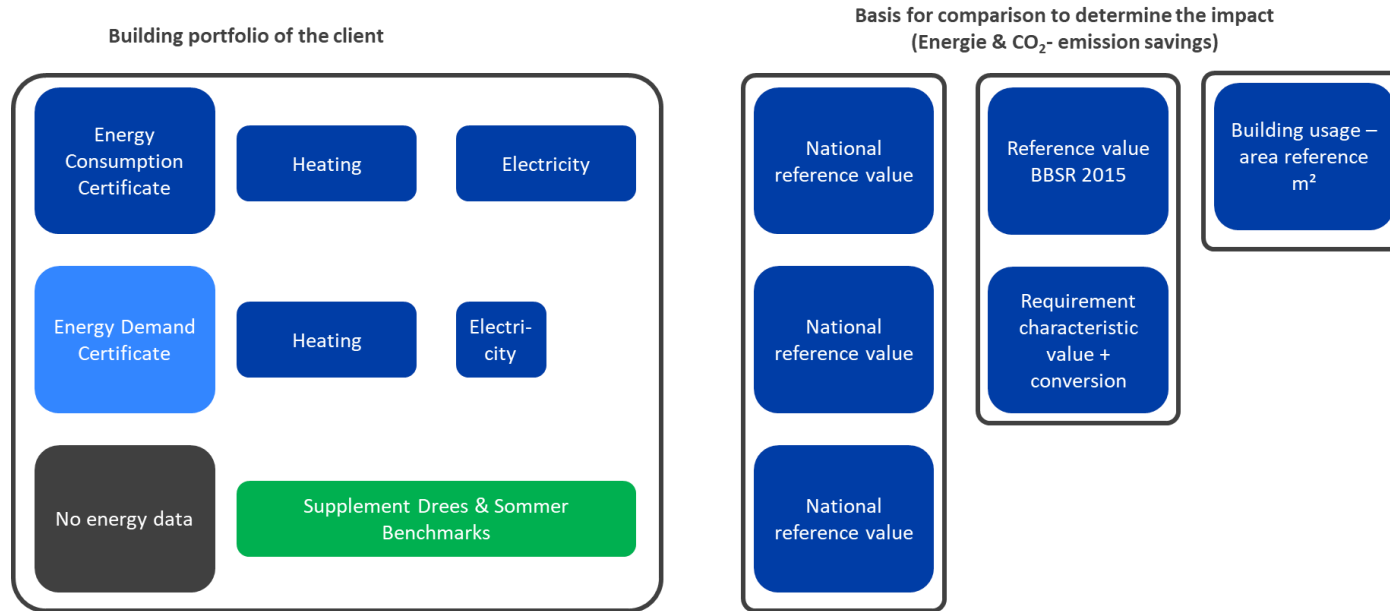
- DZ HYP (Client) has a set of eligibility criteria in place
- Portfolio Assessment and Impact Reporting are based on the provided eligibility criteria.
- Assets cover the low carbon buildings classes residential, and non-residential (office, retail, logistics, hotel).
- Assets do have an energy performance certificate (consumption or demand-based) or a green building certification and are located in Germany.





PORTFOLIO ASSESSMENT & IMPACT REPORTING

Process – Benchmarking & References



Building reference benchmarks for green eligible assets are referenced on the following:

- Assets with actual EPC data for heating and electricity
- Assets without actual EPC data are to be estimated for the building energy demand based either on:

Residential assets:

- EPC label → residential benchmarks in kWh/m²a based on national EPC scale or
- Year of construction: → residential benchmarks based on building energy code applicable in the year of construction

Non-Residential assets:

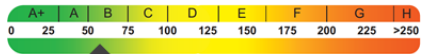
- No EPC label available
- Year of construction: → benchmarks based on building energy code applicable in the year of construction with the corresponding reference benchmarks (BBSR 2009, BBSR 2015, BBSR 2019, BBSR 2021 and BBSR 2023).



SUSTAINABLE FINANCE

Reference Benchmarks – Energy & Greenhouse Gases (CO₂)

Top15%



Top 15%

Top 15%-Benchmark

- Final energy in kWh/m²a (or equivalent rating)
- CO₂-emissions in kgCO₂/m²a

Average Benchmark

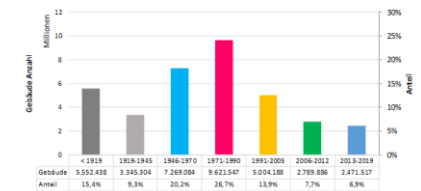


Reference value

National Benchmark – Average building stock

- Final energy in kWh/m²a (or equivalent rating)
- CO₂-emissions in kgCO₂/m²a

Detailed - Benchmarks



Detailed benchmarks per building age class/energy standard

- Final energy in kWh/m²a (or equivalent rating)
- CO₂-emissions in kgCO₂/m²a

Reference Benchmarks Energy & GHG





**UNITING
OPPOSITES
TO CREATE
A WORLD
WE WANT
TO LIVE IN**

**DREES &
SOMMER**