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GREEN BOND IMPACT REPORT – 08/2023

RAIFFEISENLANDESBANK OBERÖSTERREICH

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RLBOOE – GREEN BOND ELIGIBILITY CRITERIA

	Green Bond Kriterien Das Objekt erfüllt eine der folgenden Bedingungen:	**Green Bond criteria** *The object fulfills one of the following criteria:*	**Residential** ***Mietzinshaus / Multi-Family***	**Non-Residential** ***Büro/Office***	**Non-Residential** ***Handel/Retail***	**Non-Residential** ***Büro/Office***	**Non-Residential** ***Lager/Logistics***
1)	**Energiestandard oder neuer** Baubewilligung neuer als 2021	**Building energy code or newer** for buildings built after 2021	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 (EBPD)", the NZEB-standard is implemented in “OIB-RL6-Nationaler Plan (OIB-330.6-005/18)” requirements.			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 (EBPD)", the NZEB-standard is implemented in the GEG 2020 (Gebäude-Energie-Gesetz) requirements.	
2)	**Energiestandard oder neuer** Baubewilligung bis 2021	**Building energy code or newer** for buildings built before 2021	Burgenland, Vorarlberg: OIB-R6-2011 (OIB-330.6-94/11) All other counties OIB-R6-2007 (OIB-330.6-038/07) with stringency of 01.01.2010	All counties: OIB-R6-2007 (OIB-330.6-038/07) without stringency of 01.01.2010		EnEV 2014	EnEV 2009
3)	**Baujahr entspricht oder ist neuer** basierend auf dem Energiestandard und dessen Zeitpunkt des Inkrafttretens im jeweiligen Bundesland	**Year of construction is equal or newer** based on the building energy code and its date of coming into force for each county	Burgenland, Vorarlberg: 2013 Salzburg: 2012 All other counties: 2010	Tirol & Vorarlberg: 2008 Burgenland, Kärnten, Oberösterreich, Steiermark & Wien: 2009 Niederösterreich: 2010 Salzburg: 2012		Buildings built after 2014 based on EnEV 2014	Buildings built after 2014 based on EnEV 2014
4)	**Energieeffizienzklasse** baserend auf dem Energieausweis (Bedarf oder Verbrauch)	**Energy efficiency rating** based on energy performance certificate (demand or consumption)	All counties: Energy performance certificate with energy efficiency label A or better complying with - heating energy demand $HWB_{(REF),SK}$ of 25 kWh/m²yr or less, - primary energy demand PEB_{SK} of 80 kWh/m²yr or less, - CO2-emissions intensity of $CO2_{2eq,Sk}$ of 15 kg/m²yr or less - energy efficiency factor $f_{GEE,(RK)}$ of 0.85 or less			Energy Performance certificate with an EPC label A or better. This requirement is not applicable for Non-Residential buildings in Germany.	
5)	**Energetische Sanierung** *basierend auf Energie und CO2-Einsparungen gemäß EU Taxonomy 2020*	**Property upgrade** *based on reduction in primary energy demand*	Major renovation meets cost-optimal minimum energy performance requirements in accordance with the Energy Performance of Buildings Directive (EBPD). Requirements for primary energy demand and carbon emissions as referenced in OIB-RL6:2015 (OIB-330.6-009/15) and cost optimum report for Austria with energy efficiency factor $f_{GEE,(RK)} \leq 1.05$			Requirements for primary energy demand and carbon emissions as referenced GEG 2020 / EnEV 2016. (EnEV 2016 as EnEV 2014 with amendments from 01.01.2016) and cost optimal report for Germany	
			Relative improvement in primary energy demand ≥ 30% in comparison to the performance of the building before the renovation.				

Drees & Sommer low carbon building criteria are based on EU Taxonomy (Delegated Act). Criteria are valid for assets located in Austria and Germany. Status: January 2022. Assets do need to comply only with one of the criteria 1) – 5) to proof eligibility.

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Real estate portfolio – Summary

Low Carbon Buildings	Year of Issuance	Type	Signed Amount[a]	Share of Total Portfolio Financing[b]	Eligibility for green bonds[c]	Average portfolio lifetime[d]	Annual final energy savings[e]	Annual $CO_{2,eq.}$ emissions avoidance[g]
Unit	*[yyyy]*	*[-]*	*[EUR]*	*[%]*	*[%]*	*[years]*	*[MWh/year]*	*[tCO2/year]*
RLBOOE	*2023*	*Low Carbon Building*	*166.688.546*	*90,2*	*100*	*13,6*	*37.273*	*7.524*
Office buildings -Austria	2023	Low Carbon Building	9.750.389	5,8	100	18,4	368	77
Retail buildings -Austria	2023	Low Carbon Building	103.071.890	61,8	100	11,5	27.056	5.655
Multifamilybuildings - Austria	2023	Low Carbon Building	33.651.603	20,2	100	14,9	8.643	1.504
Office buildings -Germany	2023	Low Carbon Building	3.829.941	2,3	100	12,8	79	18
Logistics buildings - Germany	2023	Low Carbon Building	16.384.724	9,8	100	6,7	1.128	271

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

[b] Portion of the total portfolio cost that is financed by the issuer.

[c] Portion of the total portfolio cost that is eligible for Green Bond.

[d] average remaining term of Green Bond loan within the total portfolio.

[e] Final energy savings calculated using the difference between the top 15% and the national building stock benchmarks

[f] Primary energy savings determined by multiplying the final energy savings with the primary energy factor

[g] Greenhouse gas emissions avoidance determined by multiplying the final energy savings with the carbon emissions intensity

Drees & Sommer evaluation based on D&S methodology (07/2023) and RLBOOE portfolio client data.

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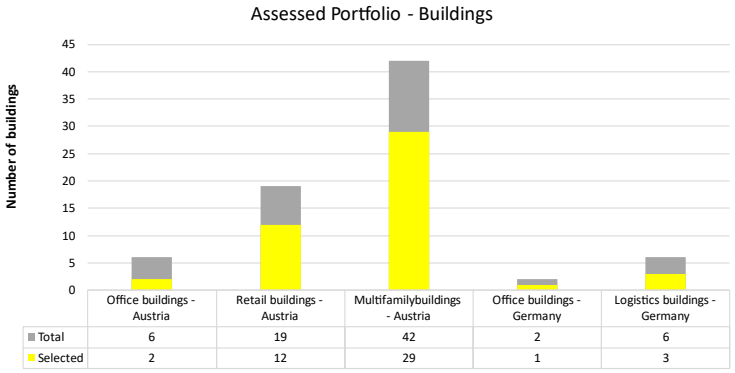
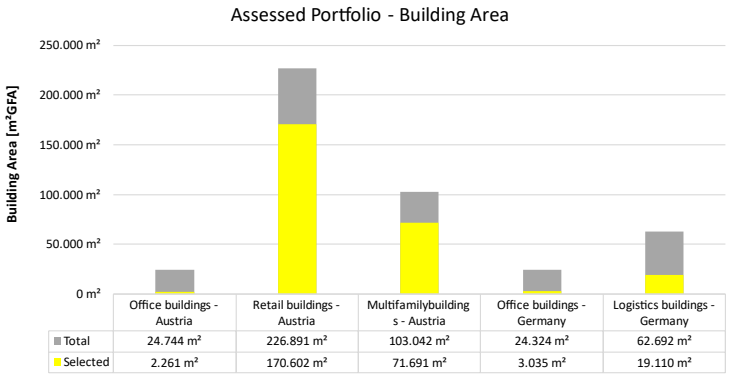
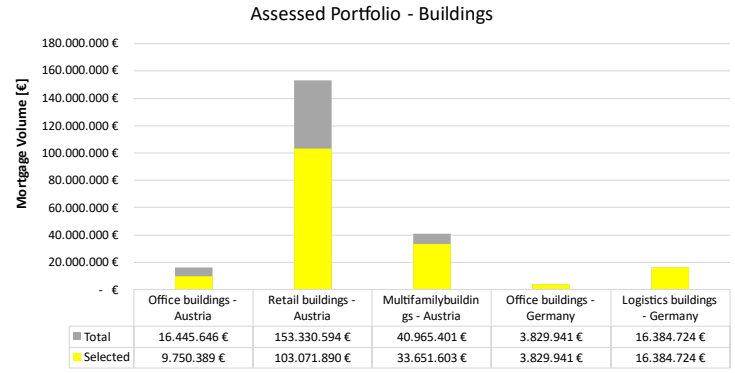
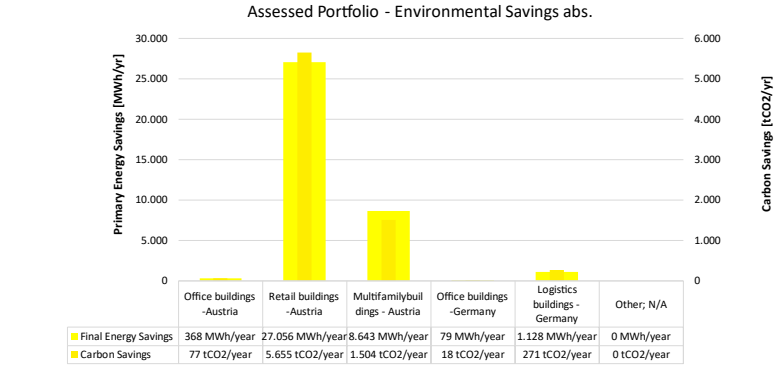
Real estate portfolio









Green Bond Portfolio:

- Buildings: 47
- Area: 266 699 m²
- Mortag Volume : 166 688 546 EUR
- Final energy savings: 37 273 MWh/year
- Carbon emissions savings: 7 524 tCO_{2eq}/year

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Real estate portfolio - Carbon emissions and energy savings – Methodology (example Office buildings)

Austrias‘ average Office building:

- primary energy demand (reference year 2023) $EP_{Ø,Office}$ = 308.5 kWh/m²GFAa
- carbon emissions intensity (reference year 2023) $CEI_{Ø,Office}$= 46.2 kgCO2/m²GFAa

Green Bond eligible asset:

- primary energy demand $EP_{GB,Office}$ = XYZ kWh/m²year
- carbon emissions intensity $CEI_{GB,Office}$ = XYZ kgCO2/m²year
  (depending on EPC-Data/technical condition/year of construction)
  (if data not available, mean cabon emissions intensity will be applied)

Primary Energy Savings:
Difference in **Primary energy demand** between green bond asset ($EP_{GB,MFH}$) **and** Austria‘s mean office building ($EP_{Ø,Office}$) **multiplied** with the **area** of the green bond asset

Carbon Emissions Savings:
Difference in **Carbon emissions intensity** between green bond asset ($CEI_{GB,MFH}$) **and** Austria‘s mean office building ($CEI_{Ø,Office}$) **multiplied** with the **area** of the green bond asset

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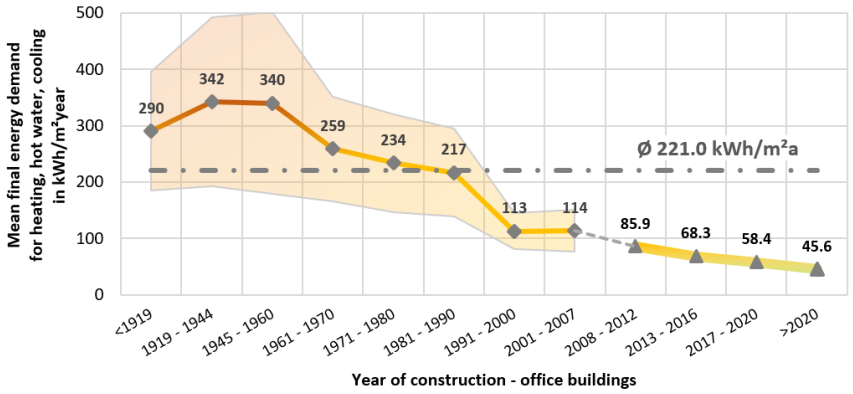
Energy & CO_2 Benchmarks – **Office buildings**

Energy usage per energy standard and building age



Building-weighted national reference benchmark **office** buildings (heating, hw, cooling):

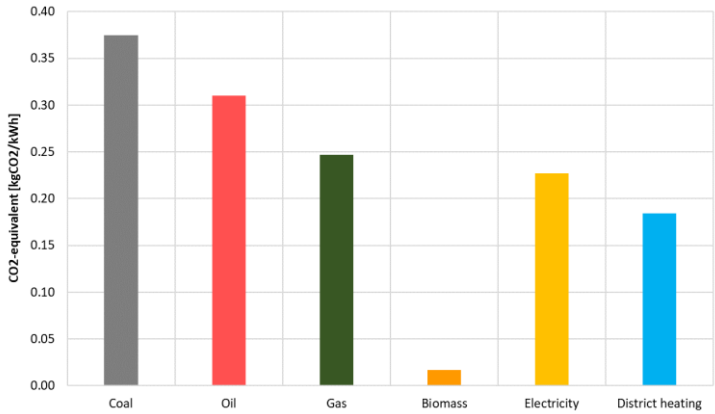
Final energy demand:

Ø 221.0 kWh/m²$_{GFA}$a

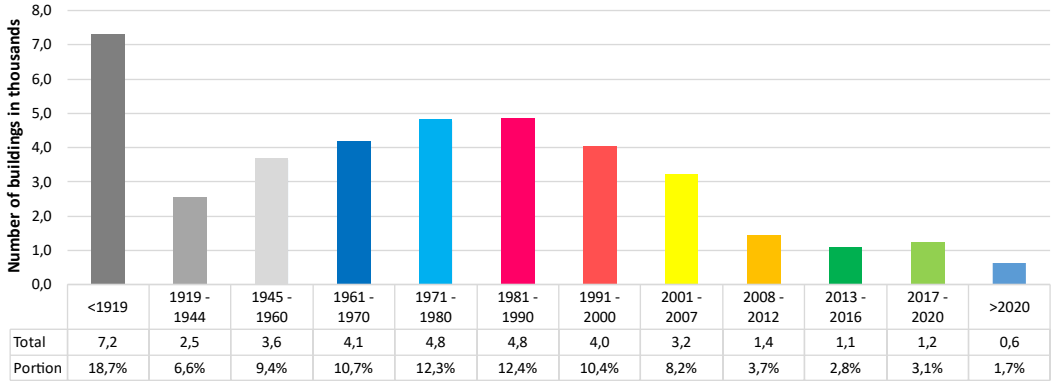
Primary energy demand:

Ø 308.5 kWh/m²$_{GFA}$a

CO_2 emission per used energy source

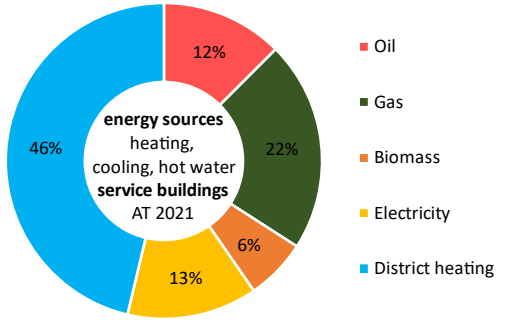


Building stock per age



	<1919	1919 - 1944	1945 - 1960	1961 - 1970	1971 - 1980	1981 - 1990	1991 - 2000	2001 - 2007	2008 - 2012	2013 - 2016	2017 - 2020	>2020
Total	7,2	2,5	3,6	4,1	4,8	4,8	4,0	3,2	1,4	1,1	1,2	0,6
Portion	18,7%	6,6%	9,4%	10,7%	12,3%	12,4%	10,4%	8,2%	3,7%	2,8%	3,1%	1,7%

Used energy source



CO_2 emission intensity non-residential:

Ø 0.209 kgCO_2/kWh

Building-weighted national reference benchmark office: (heating, cooling):

CO_2 emission:

Ø 46.2 kgCO_2/m²$_{GFA}$a

Drees & Sommer figures based on:
Poehn 2012, WIFO 2008, OIB 2021, Statistik Austria 2022

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Overview reference benchmarks – Austria

	Ø-Reference values: Energy		Ø-Reference values: CO_2-equivalent	
Single family houses	**Primary energy factor** mean **residential** (heating, hot water): **1.247** **Electricity:** **1.63**	FED_H = **299.8** kWh/m^2_{GFA}a PED_H = **374.0** kWh/m^2_{GFA}a PED_{tot} = **393.2** kWh/m^2_{GFA}a	**CO_2 emission intensity** mean **residential** (heating, hot water): **0.174 kgCO_2/kWh** **Electricity:** **0.227 kgCO_2/kWh**	Building-weighted reference benchmark (heating, hot water): **52.2** kgCO_2/m^2_{GFA}a $CO2_{tot}$ = **54.8** kgCO2/m^2_{GFA}a
Multi family houses		FED_H = **189.9** kWh/m^2_{GFA}a PED_H = **236.9** kWh/m^2_{GFA}a PED_{tot} = **265.9** kWh/m^2_{GFA}a		Building-weighted reference benchmark (heating, hot water): **33.1** kgCO_2/m^2_{GFA}a $CO2_{tot}$ = **37.1**kgCO2/m^2_{GFA}a
Office buildings	**Primary energy factor** mean **non-residential** (heating, cooling): **1.396** **Electricity:** **1.63**	$FED_{H,C}$ = **221.0** kWh/m^2_{GFA}a $PED_{H,C}$ = **308.5** kWh/m^2_{GFA}a PED_{tot} = **413.3** kWh/m^2_{GFA}a	**CO_2 emission intensity** mean **non-residential** (heating, cooling): **0.209 kgCO_2/kWh** **Electricity:** **0.227 kgCO_2/kWh**	Building-weighted reference benchmark (heating, cooling): **46.2** kgCO_2/m^2_{GFA}a $CO2_{tot}$ = **60.8** kgCO2/m^2_{GFA}a
Retail buildings		$FED_{H,C}$ = **224.9** kWh/m^2_{GFA}a $PED_{H,C}$ = **313.9** kWh/m^2_{GFA}a PED_{tot} = **531.2**kWh/m^2_{GFA}a		Building-weighted reference benchmark (heating, cooling): **47.0** kgCO_2/m^2_{GFA}a $CO2_{tot}$ = **77.8** kgCO2/m^2_{GFA}a

FED_H = final energy demand for heating and hot water
FED_H = final energy demand for heating and cooling
GFA = heated gross floor area

$PED_{H,C}$ = primary energy demand for heating and hot water
$PED_{H,C}$ = primary energy demand for heating and cooling

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Overview reference benchmarks – Germany

	Ø-Reference values: Energy		Ø-Reference values: CO_2-equivalent	
Office buildings	**Primary energy factor** mean **non-residential** (heating, hot water): **0,971** **Electricity:** **1.80**	**FED_H = 136** kWh/m^2_{NFA}a **PED_H = 132** kWh/m^2_{NFA}a **PED_{tot} = 222** kWh/m^2_{NFA}a	**CO_2 emission intensity** mean **non-residential** (heating, hot water): **0.223 kgCO_2/kWh** **Electricity:** **0.560 kgCO_2/kWh**	Building-weighted reference benchmark (heating, hot water): **30.3** kgCO_2/m^2_{GFA}a **$CO2_{tot}$ = 58.3** kgCO2/m^2_{GFA}a
Logistics buildings	**Primary energy factor** mean **non-residential** (heating): **1.098** **Electricity:** **1.80**	**FED_H = 82** kWh/m^2_{NFA}a **PED_H = 90** kWh/m^2_{NFA}a **PED_{tot} = 184** kWh/m^2_{NFA}a	**CO_2 emission intensity** mean **non-residential** (heating, cooling): **0.240 kgCO_2/kWh** **Electricity:** **0.560 kgCO_2/kWh**	Building-weighted reference benchmark (heating, cooling): **19.7** kgCO_2/m^2_{GFA}a **$CO2_{tot}$ = 48.8** kgCO2/m^2_{GFA}a

FED_H = final energy demand for heating and hot water *PED_H = primary energy demand for heating and hot water*
NFA = conditioned net floor area

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