



GREEN FINANCE IMPACT REPORTING FOR HYPO VORARLBERG BANK AG

RESIDENTIAL PORTFOLIO AUSTRIA

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GREEN BOND IMPACT REPORT HYPO VORARLBERG

Austrian residential real estate portfolio - Harmonized Framework

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 primary energy savings ^f	Annual CO _{2,eq.} emissions avoidance ^g
<i>Unit</i>	<i>[yyyy]</i>	<i>[-]</i>	<i>[EUR]</i>	<i>[%]</i>	<i>[%]</i>	<i>[years]</i>	<i>[MWh/year]</i>	<i>[MWh/year]</i>	<i>[tCO₂/year]</i>
<i>Hypo Vorarlberg Bank AG</i>	<i>2023</i>	<i>Low Carbon Building</i>	<i>560 818 313</i>	<i>100.0</i>	<i>100</i>	<i>22.6</i>	<i>37 718</i>	<i>51 586</i>	<i>7 240</i>
Single-family houses - AT	2023	Low Carbon Building	283 397 425	50.5	100	23.5	21 439	34 484	4 832
Multi-family houses - AT	2023	Low Carbon Building	277 420 888	49.5	100	21.8	16 279	17 102	2 409

^a Legally committed signed amount by the issuer for the portfolio 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

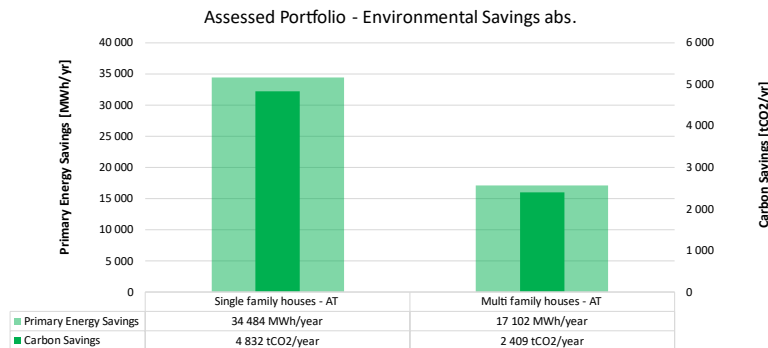
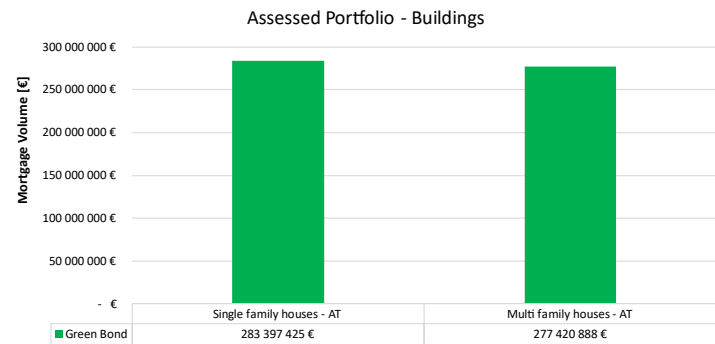
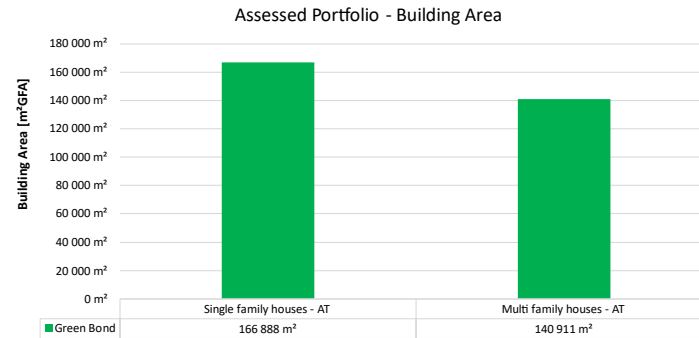
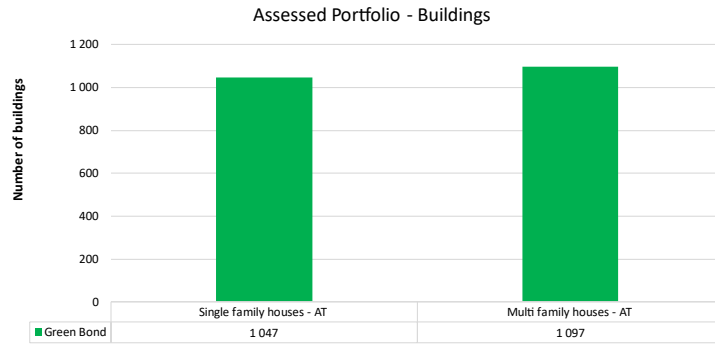
^f Primary energy savings determined by multiplying the final energy savings with the primary energy factor

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



GREEN BOND IMPACT REPORT HYPO VORARLBERG

Austrian residential real estate portfolio - Impact Reporting



Austrian Green Bond Portfolio:

- Buildings: 2 144
- Area: 307 798 m²
- Exposure: 561 mn EUR
- Primary energy savings: 51 586 MWh/year
- Carbon emissions savings: 7 240 tCO_{2eq}/year



GREEN BOND IMPACT REPORT HYPO VORARLBERG

Austrian residential real estate portfolio - Carbon emissions and energy savings – Methodology

- Austrias' Median Residential Buildings:
 - primary energy demand $EP_{\emptyset\text{Resi,SFH}} = 238.7 \text{ kWh/m}^2\text{a}$
 $EP_{\emptyset\text{Resi,MFH}} = 376.4 \text{ kWh/m}^2\text{a}$
 - carbon emissions intensity $CEI_{\emptyset\text{Resi,SFH}} = 52.8 \text{ kgCO}_2/\text{m}^2\text{a}$
 $CEI_{\emptyset\text{Resi,MFH}} = 33.5 \text{ kgCO}_2/\text{m}^2\text{a}$
- Green Bond eligible asset:
 - primary energy demand $EP_{\text{GB,Resi}} = \text{XYZ kWh/m}^2\text{year}$
(depending on technical condition/year of construction)
 - carbon emissions intensity $CEI_{\text{GB,Resi}} = \text{XYZ kgCO}_2/\text{m}^2\text{year}$
(if data not available, mean carbon emissions intensity will be applied)



Primary Energy Savings:

Difference in **Primary energy demand between** green bond asset ($EP_{\text{GB,Resi}}$) **and** Austria's mean residential building ($EP_{\emptyset\text{Resi}}$) **multiplied** with the area of the green bond asset

Carbon Emissions Savings:

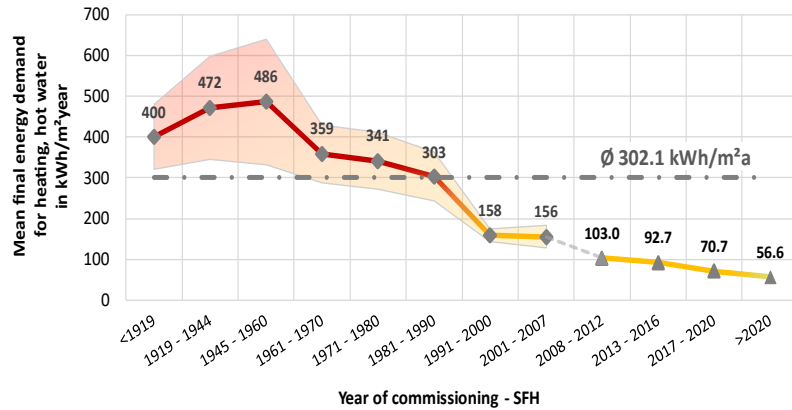
Difference in **Carbon emissions between** green bond asset ($CEI_{\text{GB,Resi}}$) **and** Austria's mean residential building ($CEI_{\emptyset\text{Resi}}$) **multiplied** with the area of the green bond asset



GREEN BOND IMPACT REPORT HYPO VORARLBERG

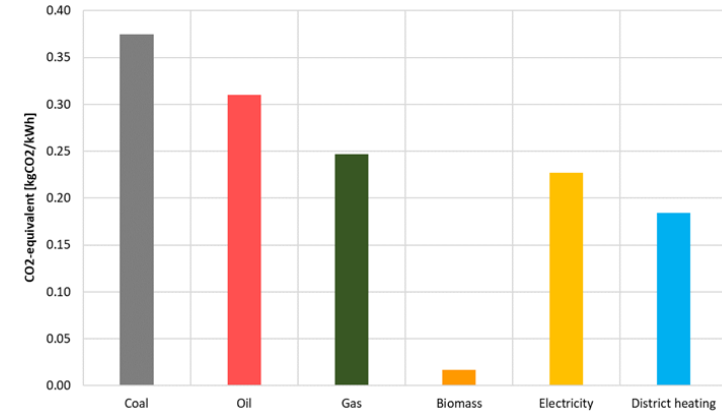
Energy & CO₂ Benchmarks – Single family houses (SFH)

Energy usage per energy standard and building age

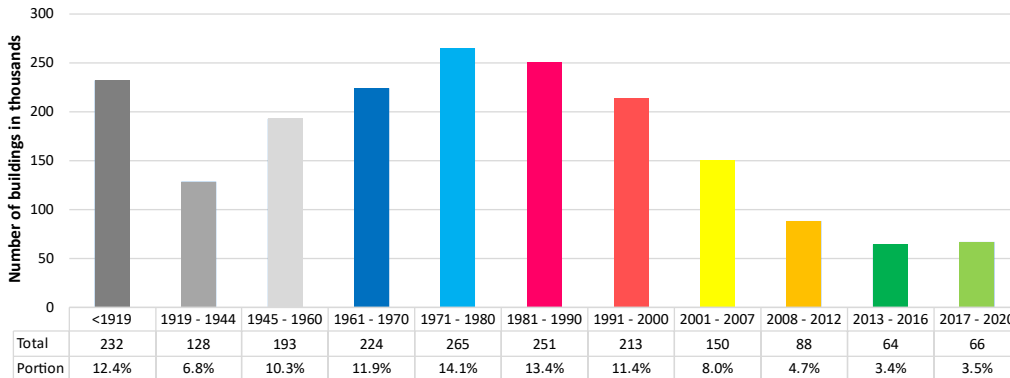


Building-weighted national reference benchmark SFH (heating, hot water):
Mean Final energy demand:
 \varnothing 302.1 kWh/m²_{GFA}
Mean Primary energy demand:
 \varnothing 376.4 kWh/m²_{GFA}

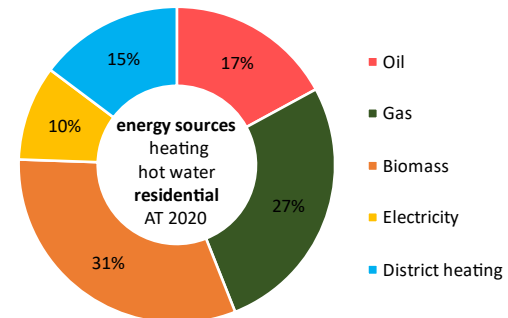
CO₂ emission per used energy source



Building stock per age



Used energy source



CO₂ emission intensity residential:
 \varnothing 0.175 kgCO₂/kWh

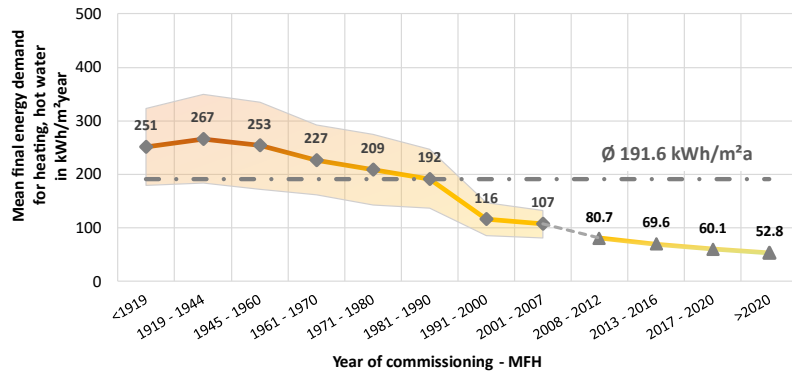
Building-weighted national reference benchmark SFH (heating, hot water):
CO₂ emission:
 \varnothing 52.8 kgCO₂/m²_{GFA}



GREEN BOND IMPACT REPORT HYPO VORARLBERG

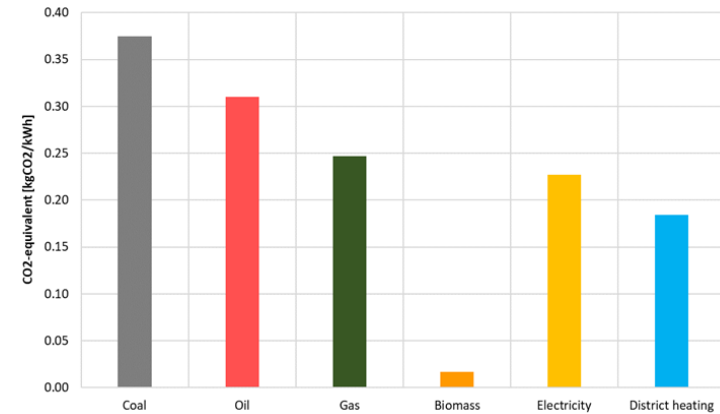
Energy & CO₂ Benchmarks – Multi family houses (MFH)

Energy usage per energy standard and building age

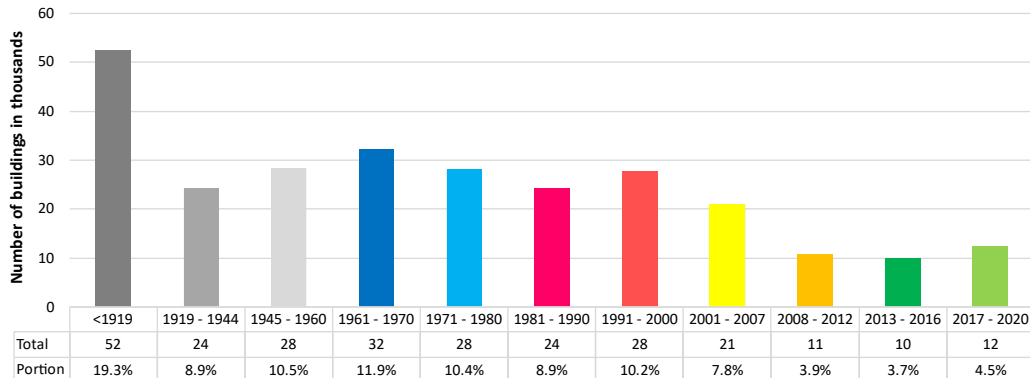


Building-weighted national reference benchmark MFH (heating, hot water):
Mean Final energy demand:
 Ø 191.6 kWh/m²_{GFA}
Mean Primary energy demand:
 Ø 238.7 kWh/m²_{GFA}

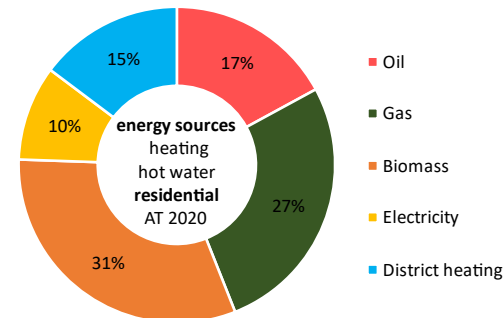
CO₂ emission per used energy source



Building stock per age



Used energy source



CO₂ emission intensity residential:
 Ø 0.175 kgCO₂/kWh

Building-weighted national reference benchmark MFH (heating, hot water):
CO₂ emission:
 Ø 33.5 kgCO₂/m²_{GFA}

Drees & Sommer figures based on:

Poehn 2012, WIFO 2008, OIB 2021, Statistik Austria 05/2022

SUCCESSFUL BUILDINGS

LIVEABLE CITIES

HIGH-YIELD PORTFOLIOS

POWERFUL INFRASTRUCTURE

FUTURE-ORIENTED CONSULTING



DREES &
SOMMER