



# GREEN FINANCE IMPACT REPORTING FOR HYPO VORARLBERG BANK AG

## RESIDENTIAL PORTFOLIO AUSTRIA

MARCH 2023

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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 <sup>a</sup>	Share of Total Portfolio Financing <sup>b</sup>	Eligibility for green bonds <sup>c</sup>	Average portfolio lifetime <sup>d</sup>	Annual final energy savings <sup>e</sup>	Annual primary energy savings <sup>f</sup>	Annual CO <sub>2,eq.</sub> emissions avoidance <sup>g</sup>
<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>560 103 712</i>	<i>100.0</i>	<i>100</i>	<i>23.1</i>	<i>38 450</i>	<i>52 386</i>	<i>7 355</i>
Single-family houses - AT	2023	Low Carbon Building	281 586 027	50.3	100	23.8	21 397	34 502	4 829
Multi-family houses - AT	2023	Low Carbon Building	278 517 686	49.7	100	22.4	17 053	17 884	2 526

<sup>a</sup> Legally committed signed amount by the issuer for the portfolio or portfolio components eligible for green bond financing.

<sup>b</sup> Portion of the total portfolio cost that is financed by the issuer.

<sup>c</sup> Portion of the total portfolio cost that is eligible for Green Bond.

<sup>d</sup> average remaining term of Green Bond loan within the total portfolio.

<sup>e</sup> Final energy savings calculated using the difference between the top 15% and the national building stock benchmarks

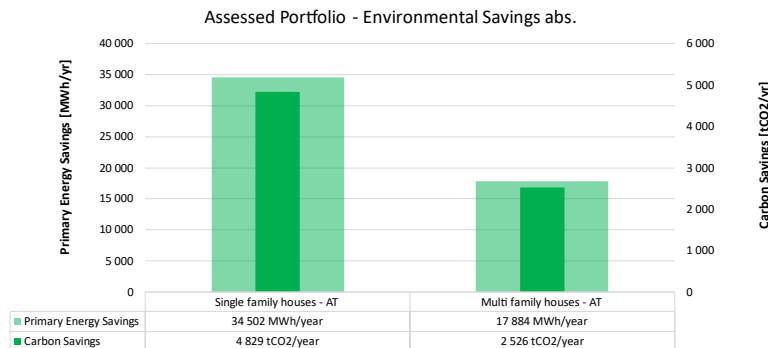
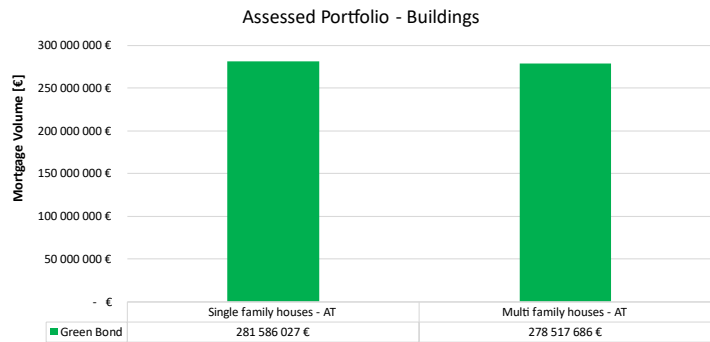
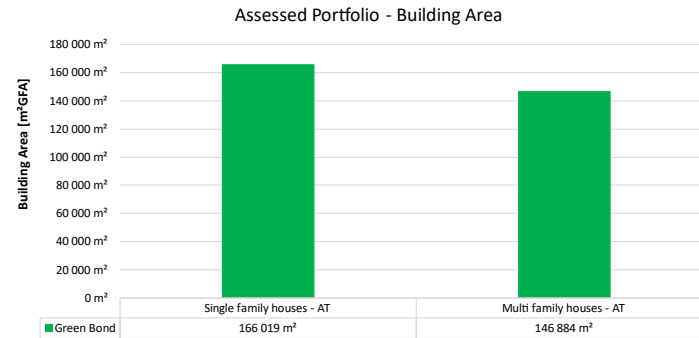
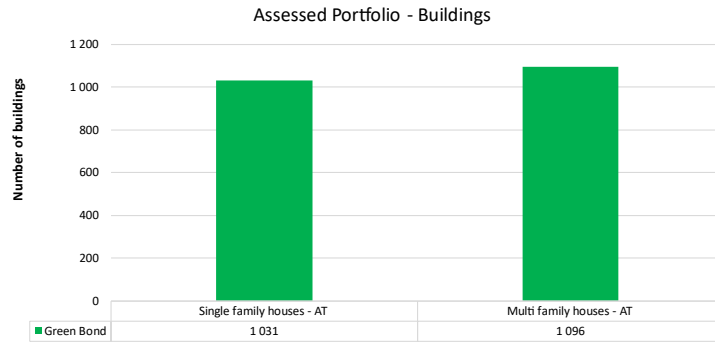
<sup>f</sup> Primary energy savings determined by multiplying the final energy savings with the primary energy factor

<sup>g</sup> 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: 2 127
- Area: 312 903 m<sup>2</sup>
- Exposure: 560 mn EUR
- Primary energy savings: 52 386 MWh/year
- Carbon emissions savings: 7 355 tCO<sub>2eq</sub>/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  $EP_{\emptyset\text{Resi,SFH}} = 376.4 \text{ kWh/m}^2\text{a}$   
 $EP_{\emptyset\text{Resi,MFH}} = 238.7 \text{ kWh/m}^2\text{a}$
  - 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:

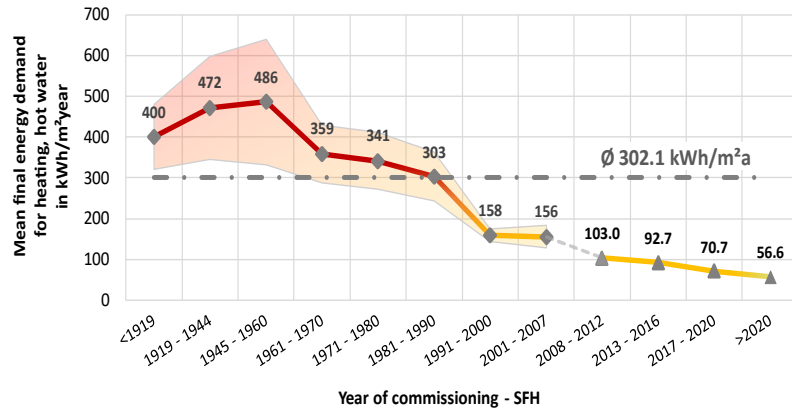
Difference in **Carbon emissions between** green bond asset ( $CEI_{\text{GB,Resi}}$ ) **and** Austria's mean residential building ( $CEI_{\emptyset\text{Resi}}$ ) **multiplied** with the area of the green bond asset



# GREEN BOND IMPACT REPORT HYPO VORARLBERG

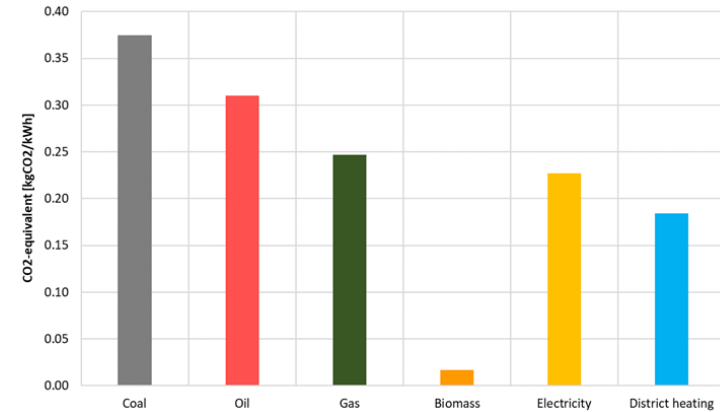
## Energy & CO<sub>2</sub> Benchmarks – Single family houses (SFH)

Energy usage per energy standard and building age

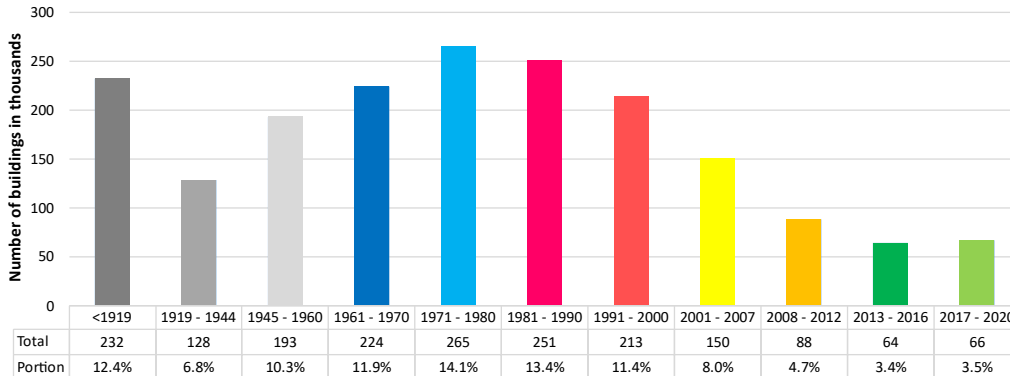


Building-weighted national reference benchmark SFH (heating, hot water):  
**Mean Final energy demand:**  
**Ø 302.1 kWh/m<sup>2</sup><sub>GFA</sub><sup>a</sup>**  
**Mean Primary energy demand:**  
**Ø 376.4 kWh/m<sup>2</sup><sub>GFA</sub><sup>a</sup>**

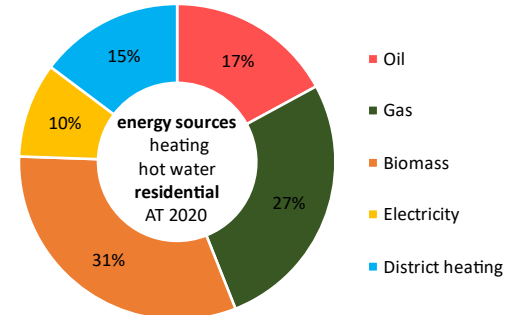
CO<sub>2</sub> emission per used energy source



Building stock per age



Used energy source



CO<sub>2</sub> emission intensity residential:  
**Ø 0.175 kgCO<sub>2</sub>/kWh**

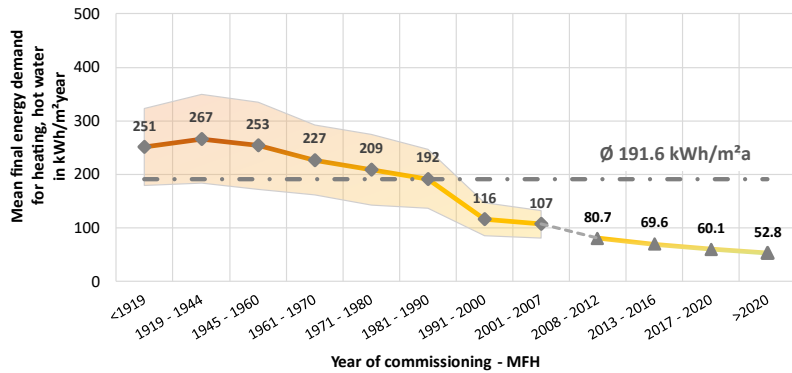
Building-weighted national reference benchmark SFH (heating, hot water):  
**CO<sub>2</sub> emission:**  
**Ø 52.8 kgCO<sub>2</sub>/m<sup>2</sup><sub>GFA</sub><sup>a</sup>**



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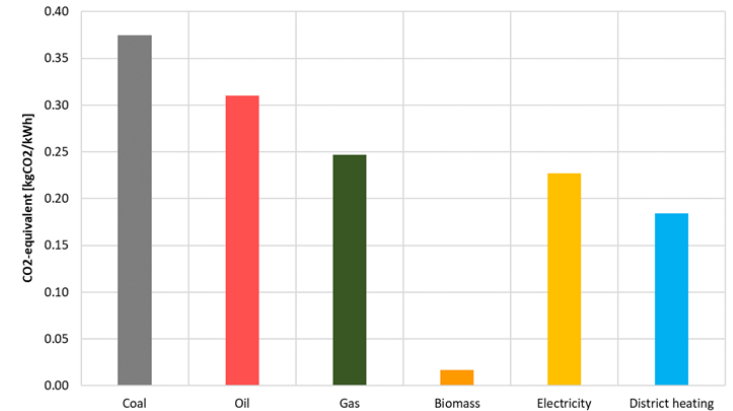
## Energy & CO<sub>2</sub> Benchmarks – Multi family houses (MFH)

Energy usage per energy standard and building age

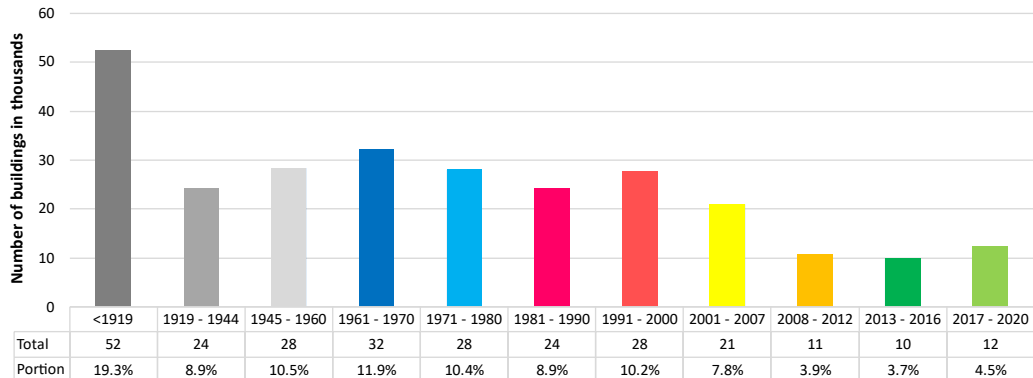


Building-weighted national reference benchmark MFH (heating, hot water):  
**Mean Final energy demand:**  
 Ø 191.6 kWh/m<sup>2</sup><sub>GFA</sub><sup>a</sup>  
**Mean Primary energy demand:**  
 Ø 238.7 kWh/m<sup>2</sup><sub>GFA</sub><sup>a</sup>

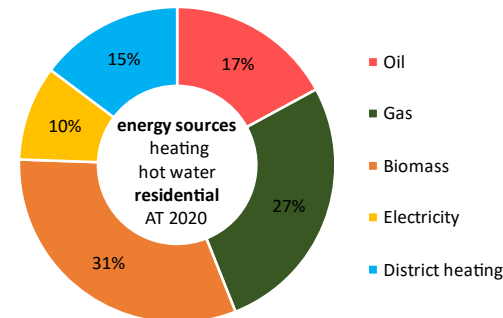
CO<sub>2</sub> emission per used energy source



Building stock per age



Used energy source



CO<sub>2</sub> emission intensity residential:  
 Ø 0.175 kgCO<sub>2</sub>/kWh

Building-weighted national reference benchmark MFH (heating, hot water):  
**CO<sub>2</sub> emission:**  
 Ø 33.5 kgCO<sub>2</sub>/m<sup>2</sup><sub>GFA</sub><sup>a</sup>

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