



Apartment Block



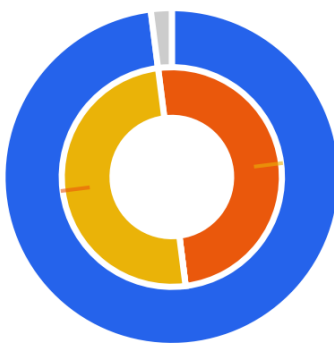
Region	south
Age Class	1919-1948
Net leased area [m²]	1484.0
Storey Height [m]	2.7
Storeys a.g.	4.0



Building Performance (KPIs)

KPI	Mean	95% CI	Unit	CV	n _{Sim}
Final heat energy demand - per year	313086.38	± 7859.32	kWh/a	0.17	90
Final heat energy demand - per m² net leased area and year	211	± 1.15	kWh/m²a	0.04	90
Carbon footprint (GWP) from heat energy - per year	78222.75	± 1963.60	kgCO ₂ eq,B6/a	0.17	90
Carbon footprint (GWP) from heat energy - per m² net leased area and year	52.72	± 0.29	kgCO ₂ eq,B6/m²a	0.04	90
Life Cycle Carbon footprint (GWP) - over 50 years	4270786.52	± 107276.89	kgCO ₂ eq,full/50a	0.17	90
Life Cycle Carbon footprint (GWP) - per m² net leased area and for 50 years	2878.26	± 15.71	kgCO ₂ eq,full/m²50a	0.04	90

ABC



- Operational (98.0%)
- Exterior walls (1.00%)
- Roof (0.00%)
- Foundation (0.00%)
- Windows (1.00%)

Building element	D [kgCO ₂ eq/50a]
Exterior walls	-431.7
Roof	-32.9
Foundation	355.4
Windows	-1,992

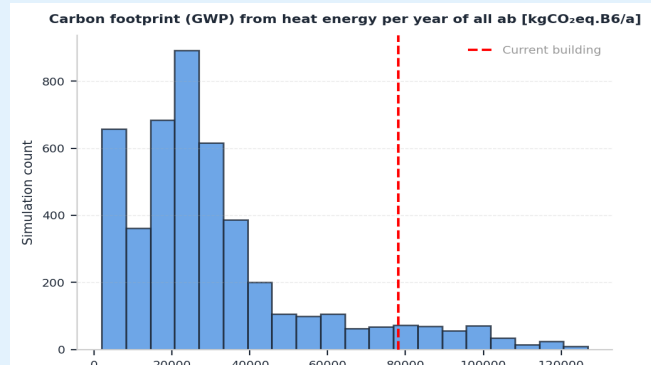
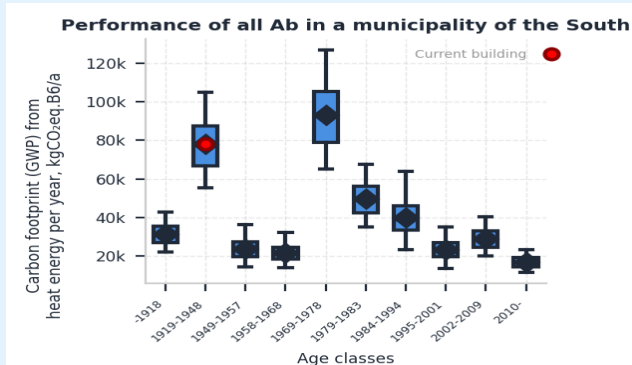
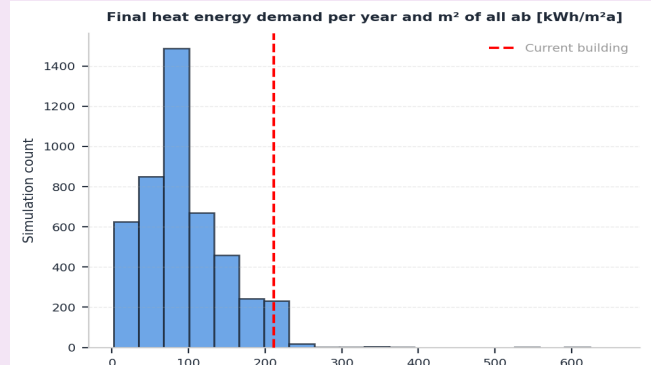
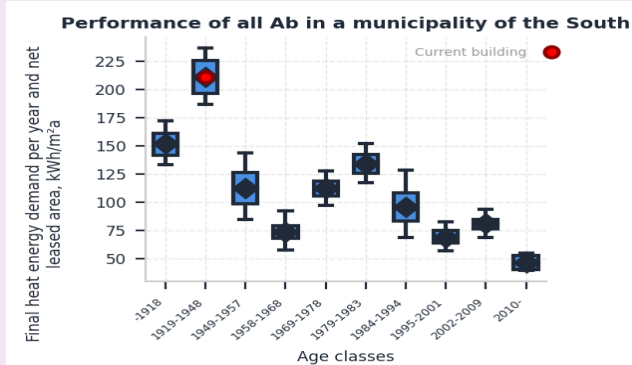
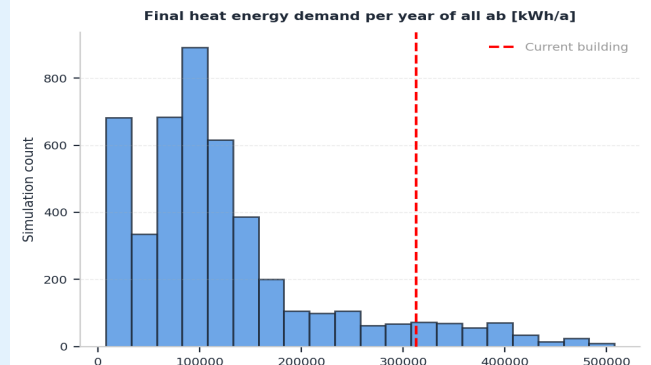
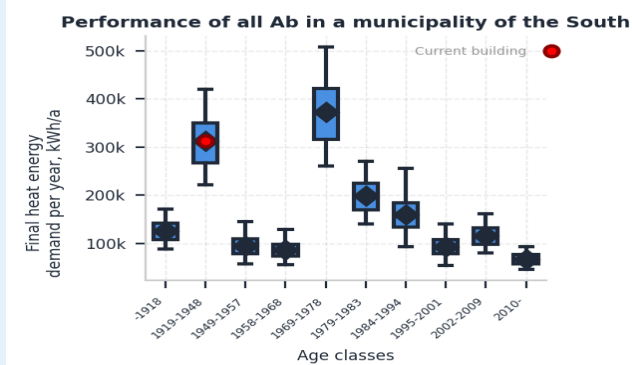


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Building Performance



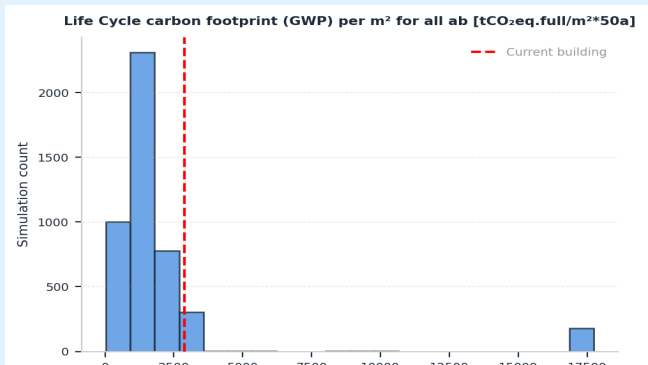
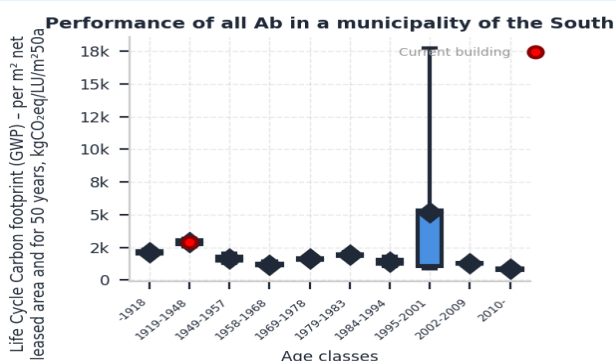
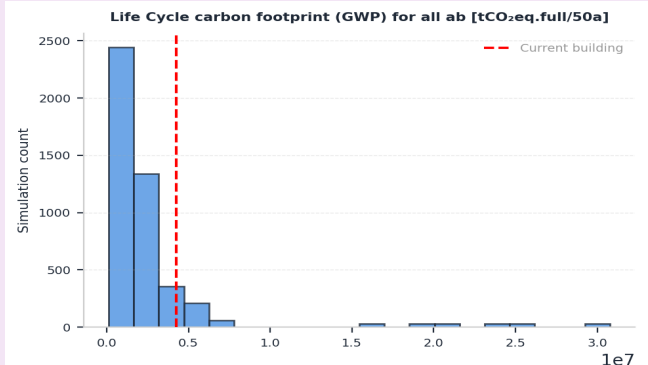
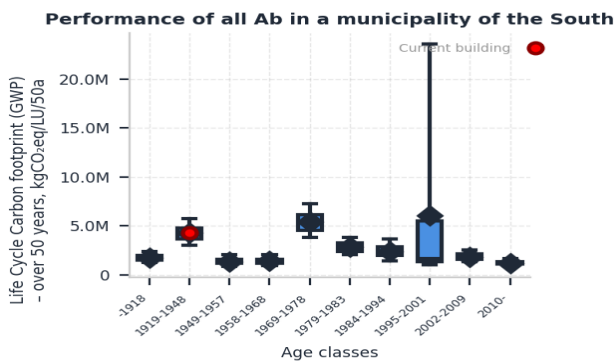
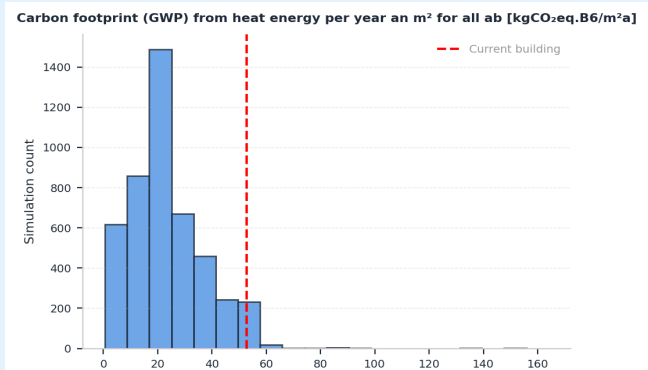
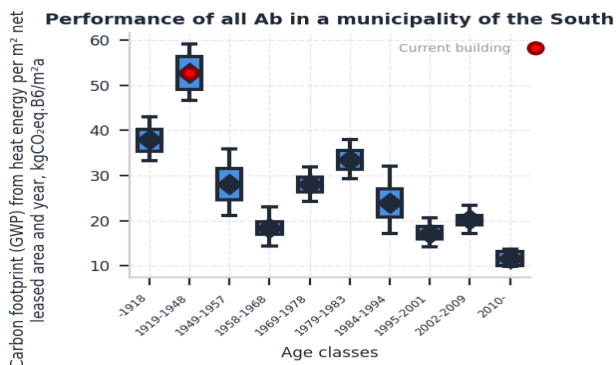


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Exterior Wall

Type: massive	U [W/m²K]		
	Actual: 1.340	Min: 0.180	Max: 1.700

Layer	Material Name	t_i [m]	ρ_i [kg/m³]	λ_i [W/mK]	c_i [J/kgK]	EPD ₁	EPD ₂
0	gypsum	0.015	850	0.3	1000	10	-
1	solid brick	0.3	1800	0.6	850	1	-
2	lime plaster	0.02	1600	0.7	850	8	-

Interior Wall

U [W/m²K]		
Actual: 2.170	Min: 0.190	Max: 2.100

Layer	Material Name	t_i [m]	ρ_i [kg/m³]	λ_i [W/mK]	c_i [J/kgK]	EPD ₁	EPD ₂
0	gypsum	0.015	850	0.3	1000	10	-
1	solid brick	0.15	1800	0.79	850	1	-
2	gypsum	0.015	850	0.3	1000	8	-

Roof

Type: wooden	U [W/m²K]		
	Actual: 1.660	Min: 0.180	Max: 1.400

Layer	Material Name	t_i [m]	ρ_i [kg/m³]	λ_i [W/mK]	c_i [J/kgK]	EPD ₁	EPD ₂
0	lime plaster	0.015	1600	0.7	850	8	-
1	wood wool board gypsum 420	0.025	2000	0.1	2000	2	-
2	hardwood	0.025	650	0.13	1500	9	-



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Foundation

Type: nan	U [W/m ² K]		
	Actual: 1.620	Min: 0.180	Max: 1.200

Layer	Material Name	t _i [m]	ρ _i [kg/m ³]	λ _i [W/mK]	c _i [J/kgK]	EPD ₁	EPD ₂
0	hardwood	0.05	650	0.13	1500	9	-
1	reinforced concrete	0.18	2104	1.94	776	5	-

Floor

U [W/m ² K]		
Actual: 2.170	Min: 0.190	Max: 2.100

Layer	Material Name	t _i [m]	ρ _i [kg/m ³]	λ _i [W/mK]	c _i [J/kgK]	EPD ₁	EPD ₂
0	hardwood	0.05	650	0.13	1500	9	-
1	reinforced concrete	0.18	2104	1.94	776	5	-

Window System

Glazing	EPD _{Gl}	Frame type	EPD _{Fr}	window wall share
2	7	wood	6	0.18767

Heating System

Generator 1	EPD	Heating energy carrier	EPD
boiler_gas_medium_low_temperature	3	gas	4



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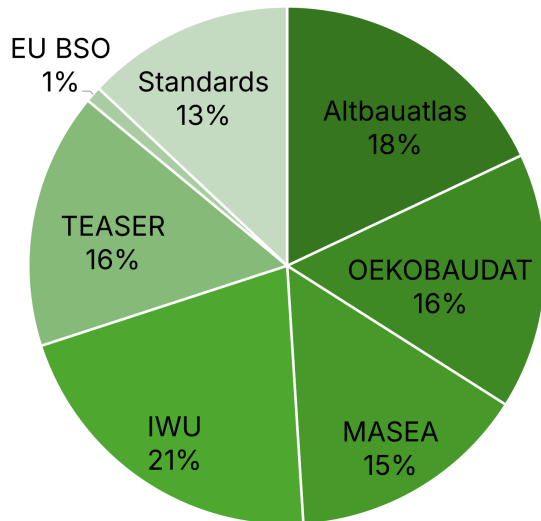


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EPD Summary Table

SPN	Full EPD ID	Material Title
1	127a23f5-d954-41c9-8f8a-ecca18aca691	Facing bricks
2	1d9ca1d8-7ff3-4533-b828-a4c96bf31066	gypsum fibre board
3	230155d8-a5df-4b32-b6e9-46bdbcf526b3	Gas low temperature boiler 20-120 kW (upright unit)
4	84aa7483-9824-49a9-a3e3-f9fb092ea7b7	Use - 1 kWh of final energy from gas calorific value (according to GEG)
5	Synthetic_2	Concrete C30/37 with reinforcement steel
6	b0c75d7b-4cce-41cf-b785-1db434ee9c3f	Window sash (spruce)
7	dcf38066-e336-46a7-b0a8-b2453dd2872d	Window glass, single
8	ddc96ae4-086c-4033-9e45-c5589f1661ba	Lime plaster
9	e131431f-4d99-4d7a-ae0a-744a06de3524	Hardwood lumber - kiln dried (German average)
10	e6c2de31-b1a6-4c5d-ba5e-df252391321b	Gypsum (CaSO4 alpha semihydrate)



This archetype represents :

- 4.39% of all Apartment Blocks
- 9.99% of all Apartment Blocks of the specific region

Data source	Link
Altbauatlas	https://www.altbauatlas.de/index.php
OEKOBAUDAT	https://www.oekobaudat.de/en.html
IWU	https://datenbasis.iwu.de/ https://wohngebaeuedaten2016.iwu.de/
MASEA	https://www.masea-ensan.de/
TEASER	https://ebc-tools.eonerc.rwth-aachen.de/en/teaser
EU BSO	https://building-stock-observatory.energy.ec.europa.eu/database/