



Apartment Block



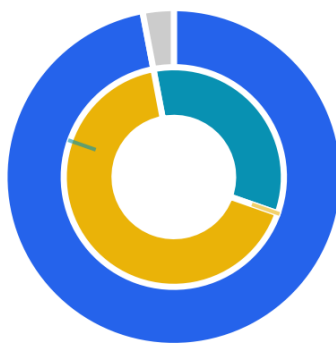
Region	south
Age Class	1949-1957
Net leased area [m²]	840.0
Storey Height [m]	2.7
Storeys a.g.	4.0



Building Performance (KPIs)

KPI	Mean	95% CI	Unit	CV	n _{Sim}
Final heat energy demand - per year	106636.93	± 2764.08	kWh/a	0.17	90
Final heat energy demand - per m² net leased area and year	126.96	± 1.05	kWh/m²a	0.06	90
Carbon footprint (GWP) from heat energy - per year	26642.59	± 690.59	kgCO ₂ eq,B6/a	0.17	90
Carbon footprint (GWP) from heat energy - per m² net leased area and year	31.72	± 0.26	kgCO ₂ eq,B6/m²a	0.06	90
Life Cycle Carbon footprint (GWP) - over 50 years	1533340.61	± 39603.10	kgCO ₂ eq,full/50a	0.17	90
Life Cycle Carbon footprint (GWP) - per m² net leased area and for 50 years	1825.50	± 14.52	kgCO ₂ eq,full/m²50a	0.05	90

ABC



- Operational (98.0%)
- Foundation (1.00%)
- Exterior walls (0.00%)
- Windows (2.00%)
- Roof (0.00%)

Building element	D [kgCO ₂ eq/50a]
Exterior walls	nan
Roof	-1,123
Foundation	-69.5
Windows	-2,173

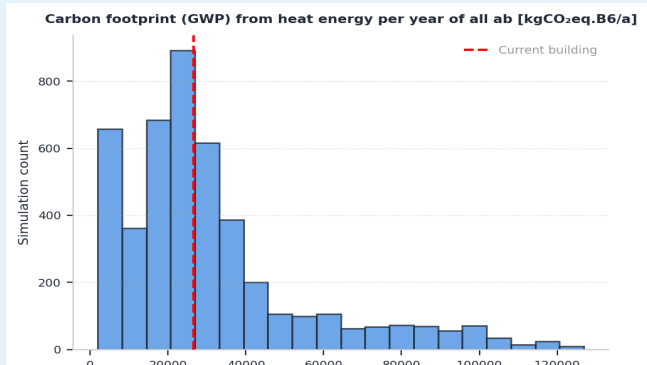
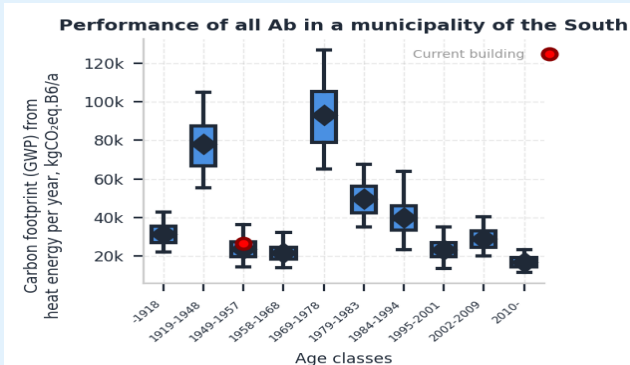
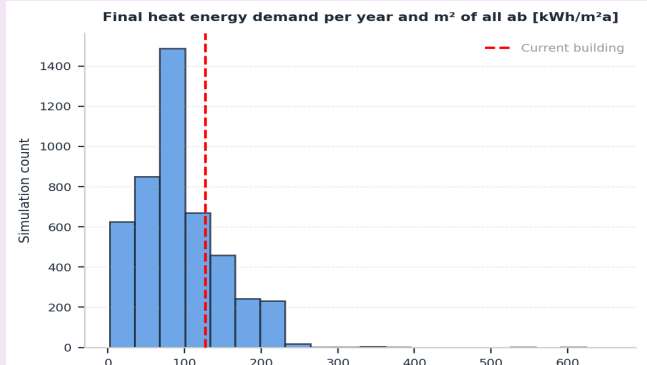
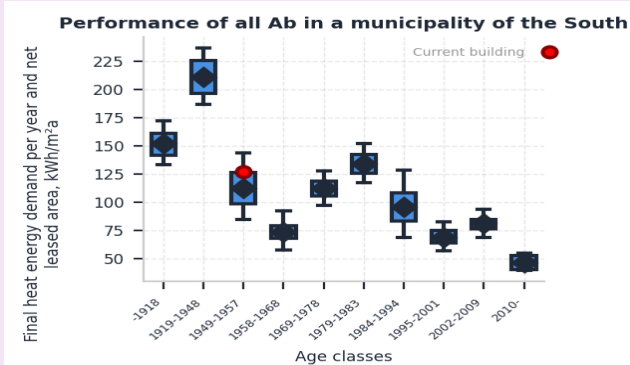
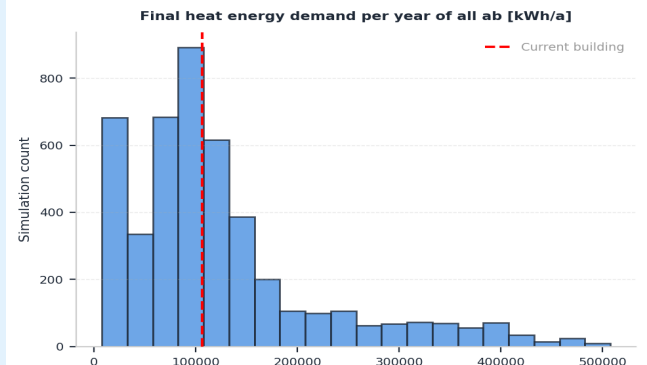
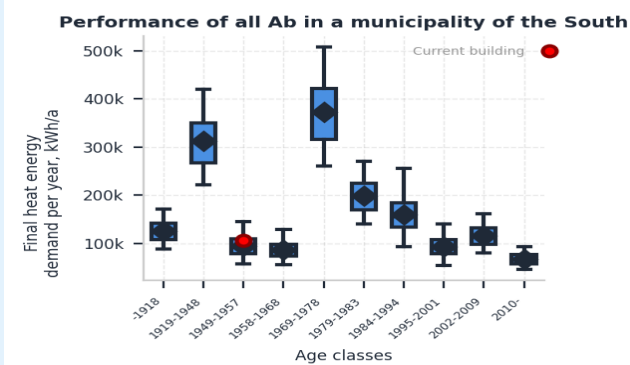


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Building Performance



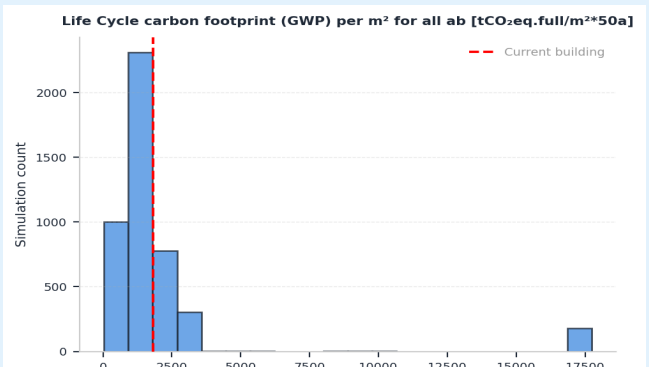
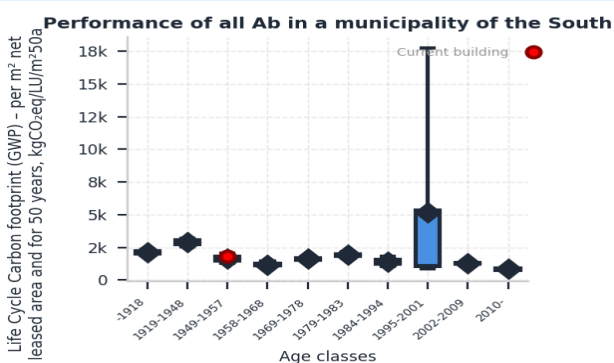
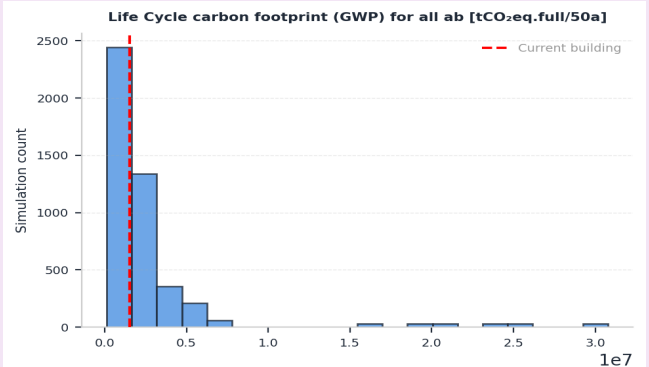
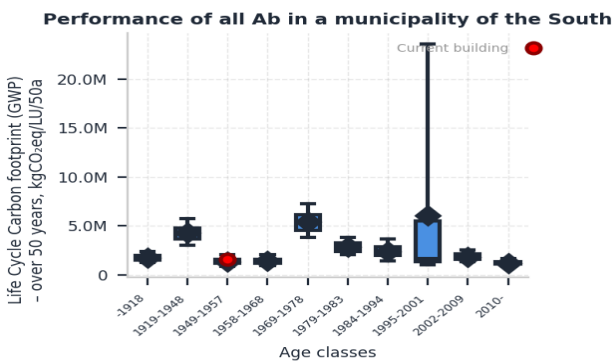
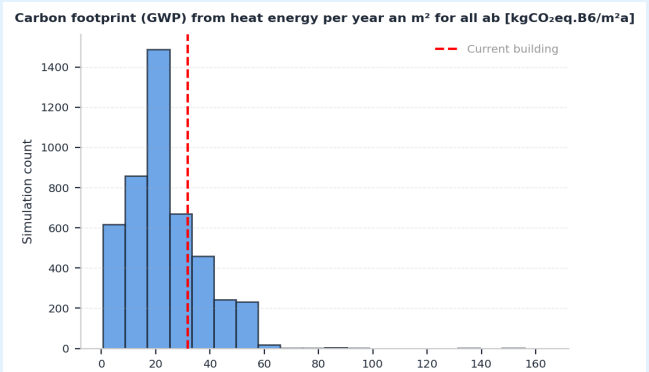
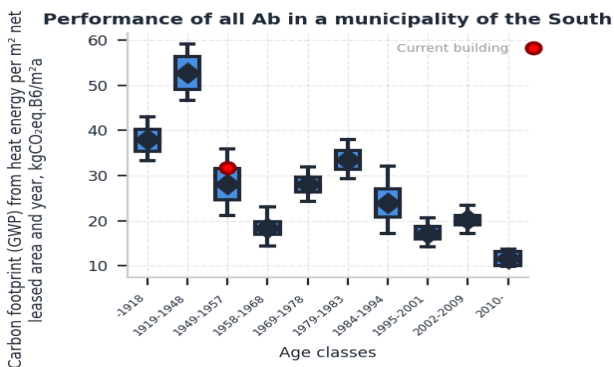


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Exterior Wall

Type: massive-monolithic	U [W/m²K]		
	Actual: 0.750	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	interior plaster	0.01	1400	0.7	850	8	-
1	mineral wool	0.02	60	0.04	850	4	-
2	solid pumice stones	0.3	1000	0.47	1050	3	-
3	exterior plaster	0.015	1600	0.87	850	1	-

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	8	-
1	solid brick	0.15	1800	0.79	850	4	-
2	gypsum	0.015	850	0.3	1000	3	-

Roof

Type: wooden	U [W/m²K]		
	Actual: 0.220	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	plaster	0.015	1237	0.7	1217	16	-
1	rafters	0.08	455	0.14	1500	19	-
2	moving air layer	0.06	1.184	0.0261	1.005	10	-
3	wood wool	0.12	469	0.09	1470	18	-
4	roof battens	0.02	600	0.14	1500	17	-
5	roof tiles	0.02	1786	0.55	889	11	-



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Foundation

Type: massive	U [W/m²K]		
	Actual: 1.640	Min: 0.180	Max: 1.200

Layer	Material Name	t_i [m]	ρ_i [kg/m³]	λ_i [W/mK]	c_i [J/kgK]	EPD ₁	EPD ₂
0	cement screed	0.04	1950	1.4	1000	7	-
1	coconut fiber insulation	0.01	50	0.09	1273	13	-
2	ceiling bricks	0.225	1788	0.87	868	14	-

Floor

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	floating cement screed	0.05	1940	1.4	1000	20	-
1	mineral wool	0.03	60	0.09	850	12	-
2	reinforced concrete	0.18	2104	2.04	776	9	-

Window System

Glazing	EPD _{Gl}	Frame type	EPD _{Fr}	window wall share
2	15	pvc	5	0.18397

Heating System

Generator 1	EPD	Heating energy carrier	EPD
boiler_gas_medium_low_temperature	2	gas	6



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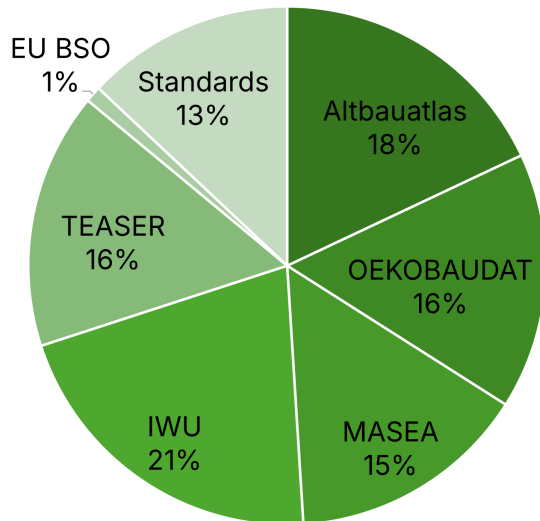


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EPD Summary Table

SPN	Full EPD ID	Material Title
1	004f3f4e-5bb8-4d9e-a104-6999a9e8ad5b	Gypsum lime plaster
2	230155d8-a5df-4b32-b6e9-46bdbcf526b3	Gas low temperature boiler 20-120 kW (upright unit)
3	2e31cc41-fa94-442a-b19b-48d82c3555d8	Pumice stone (SFK-4)
4	50d421e2-3a7b-4659-92a4-f20d6a52fcf0	Mineral wool (facade insulation)
5	73de9e80-8ed2-47d8-b5b6-854c84166f24	Window sash PVC-U
6	84aa7483-9824-49a9-a3e3-f9fb092ea7b7	Use - 1 kWh of final energy from gas calorific value (according to GEG)
7	86d919ee-8f30-4ca4-9b7e-717aecba6ac0	Cement screed
8	9a670d29-efb9-4fde-95ab-182a0b1e7280	Lime gypsum interior plaster
9	Synthetic_2	Concrete C30/37 with reinforcement steel
10	Synthetic_8	Air layer
11	a6d60a75-7a4e-4dfc-87cc-fd40f68d279a	Roofing tiles (including accessories)
12	ac779922-219f-4730-9aef-a7da84d334c1	Mineral wool (floor insulation)
13	b7b7c6be-122f-48d9-b1c2-9b81a6b7e95c	Flax fibre fleece
14	cc0d7baa-755a-4a4a-baf3-4fe53d68a041	Sand-lime brick
15	dcf38066-e336-46a7-b0a8-b2453dd2872d	Window glass, single
16	ddc96ae4-086c-4033-9e45-c5589f1661ba	Lime plaster
17	e70d9027-5315-481c-92e2-7b7d8a02eaba	holzius ? solid wood slab elements
18	ee0c4b18-f9c9-44d1-8766-36db08856a2f	Wood fiber insulation - dry process (German average)
19	efa55966-4f29-4f15-bfec-8c08b3945923	Glued laminated timber
20	fe371be5-c72f-4203-8569-a085ef375ba4	CALCIUM SULPHATE FLOWING SCREED AND CONVENTIONAL CALCIUM SULPHATE SCREED



This archetype represents :

- 2.42% of all Apartment Blocks
- 7.57% 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/