



Apartment Block



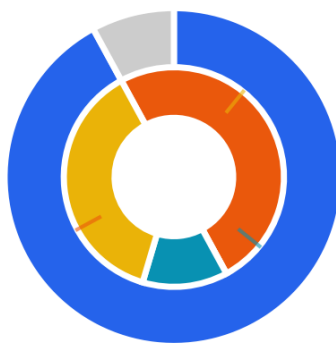
Region	south
Age Class	1995-2001
Net leased area [m²]	1398.7
Storey Height [m]	2.7
Storeys a.g.	3.0



Building Performance (KPIs)

KPI	Mean	95% CI	Unit	CV	n _{Sim}
Final heat energy demand - per year	100874.67	± 2776.22	kWh/a	0.18	90
Final heat energy demand - per m² net leased area and year	72.14	± 0.90	kWh/m²a	0.08	90
Carbon footprint (GWP) from heat energy - per year	25202.93	± 693.62	kgCO ₂ eq,B6/a	0.18	90
Carbon footprint (GWP) from heat energy - per m² net leased area and year	18.02	± 0.23	kgCO ₂ eq,B6/m²a	0.08	90
Life Cycle Carbon footprint (GWP) - over 50 years	1620558.22	± 43258.39	kgCO ₂ eq,full/50a	0.18	90
Life Cycle Carbon footprint (GWP) - per m² net leased area and for 50 years	1158.83	± 12.23	kgCO ₂ eq,full/m²50a	0.07	90

ABC



- Operational (93.0%)
- Exterior walls (4.00%)
- Roof (0.00%)
- Foundation (1.00%)
- Windows (3.00%)

Building element	D [kgCO ₂ eq/50a]
Exterior walls	1,222
Roof	0.0
Foundation	1,243
Windows	-3,834

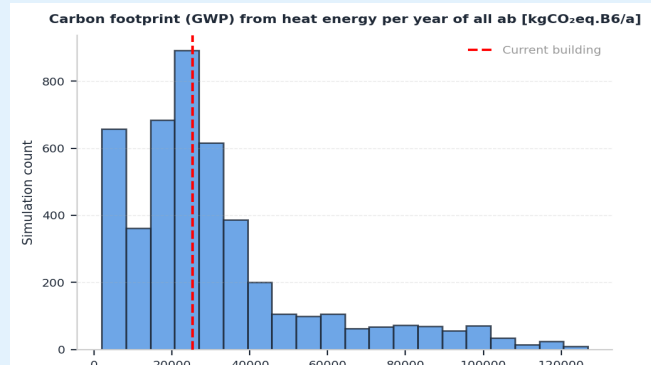
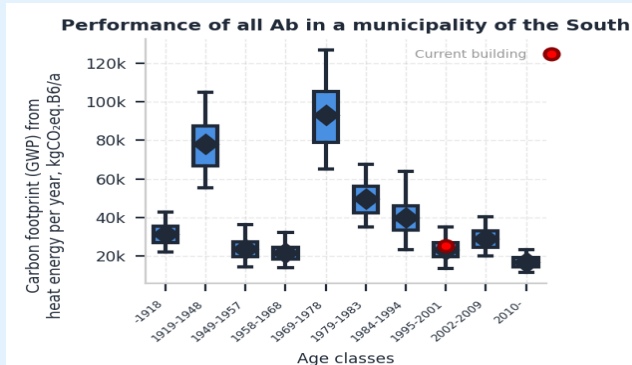
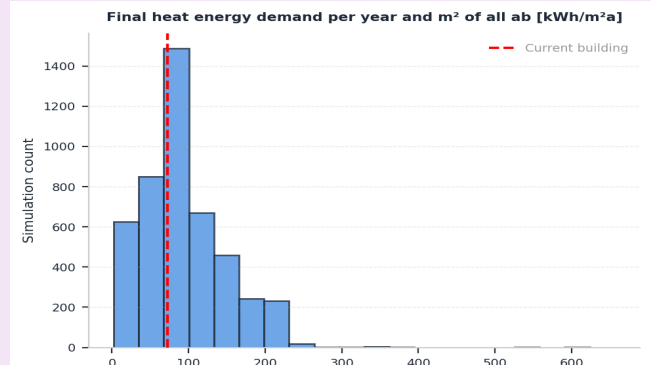
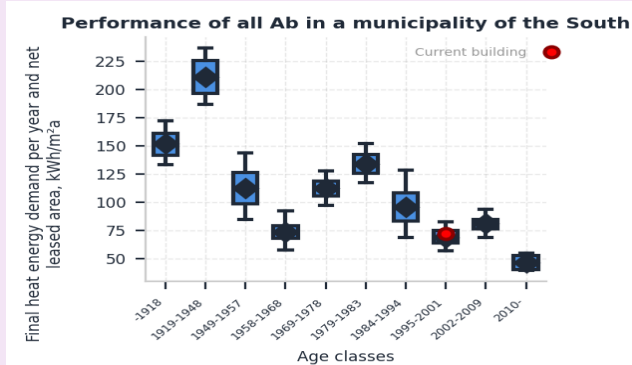
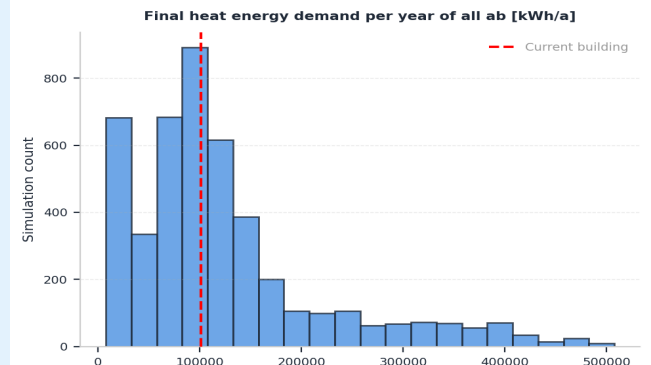
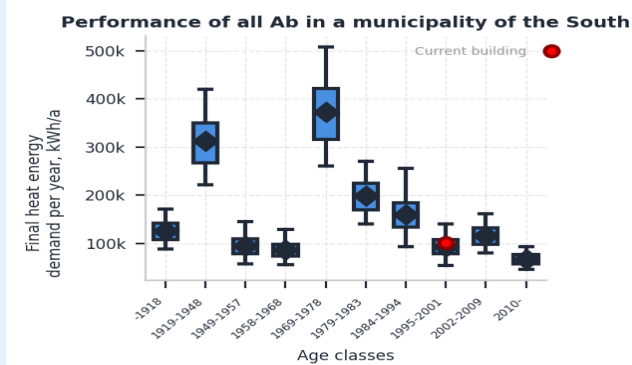


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Building Performance



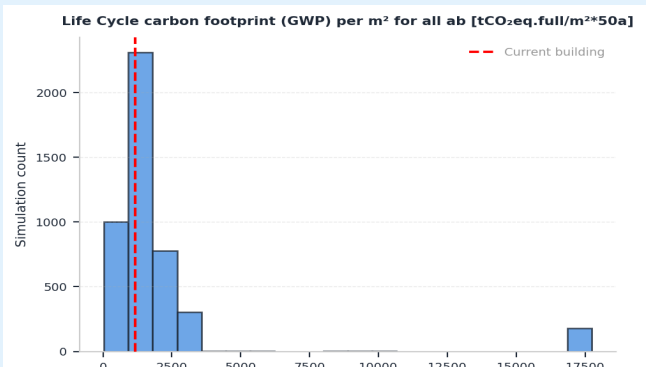
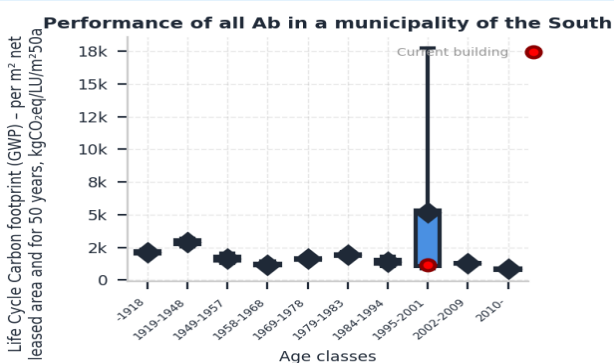
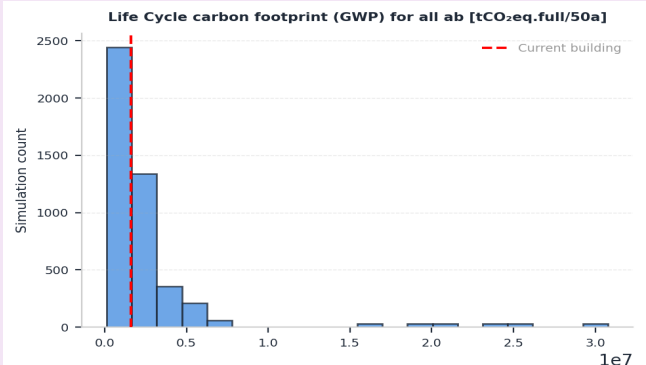
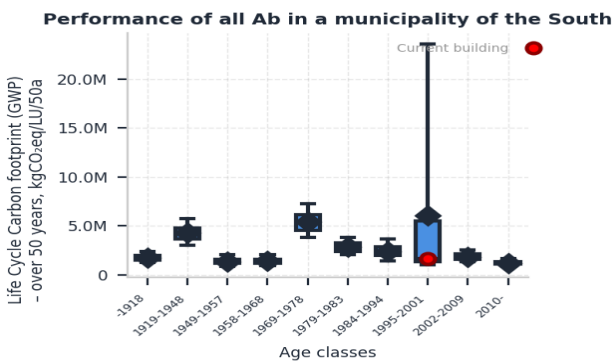
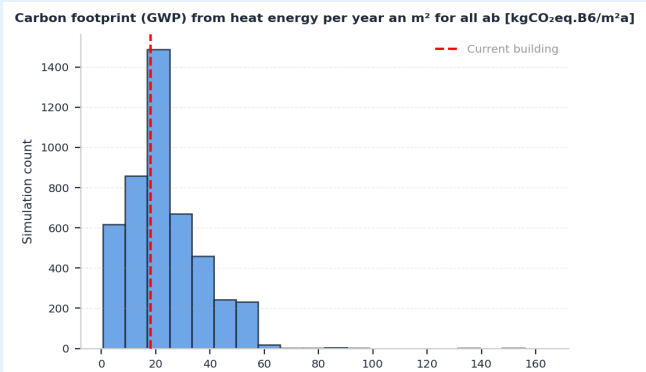
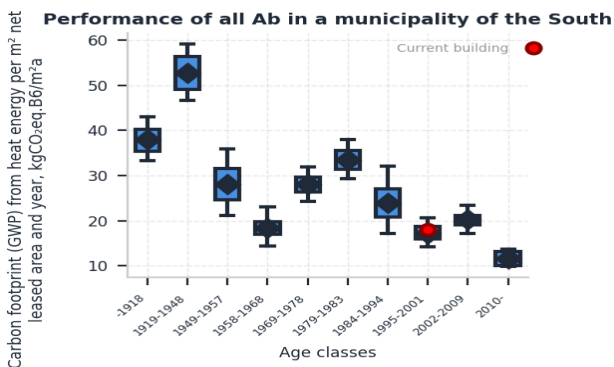


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Exterior Wall

Type: massive-double	U [W/m²K]		
	Actual: 0.360	Min: 0.160	Max: 0.600

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	9	-
1	reinforced concrete	0.15	2400	2.1	776	10	-
2	kamilit	0.1	500	0.04	840	4	-
3	concrete	0.06	2400	2.1	776	10	-
4	exterior plaster	0.02	1800	0.87	850	1	-

Interior Wall

U [W/m²K]		
Actual: 2.420	Min: 0.140	Max: 0.300

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	0.01	1600	0.7	850	9	-
1	solid brick	0.15	1800	0.7	850	10	-
2	lime plaster	0.01	1600	0.7	850	4	-

Roof

Type: wooden	U [W/m²K]		
	Actual: 0.140	Min: 0.140	Max: 0.400

Layer	Material Name	t _i [m]	ρ _i [kg/m³]	λ _i [W/mK]	c _i [J/kgK]	EPD ₁	EPD ₂
0	plank revetment	0.02	600	0.13	1500	7	-
1	rafters	0.08	600	0.13	1500	18	-
2	moving air layer	0.06	1.184	0.0261	1.005	12	-
3	mineral wool	0.15	350	0.04	850	15	-
4	roof battens	0.024	600	0.13	1500	17	-
5	bituminized felt	0.002	1100	5	1000	2	-



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Foundation

Type: massive	U [W/m²K]		
	Actual: 0.550	Min: 0.160	Max: 0.600

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	2000	1.4	1000	8	-
1	mineral wool	0.06	60	0.04	850	3	-
2	reinforced concrete	0.153	2400	2.04	776	11	-

Floor

U [W/m²K]		
Actual: 2.420	Min: 0.140	Max: 0.300

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	8	-
1	mineral wool	0.04	60	0.035	850	13	-
2	reinforced concrete	0.2	2400	2.1	776	10	-

Window System

Glazing	EPD _{Gl}	Frame type	EPD _{Fr}	window wall share
2	16	pvc	5	0.19497

Heating System

Generator 1	EPD	Heating energy carrier	EPD
boiler_gas_medium_condensing	14	gas	6



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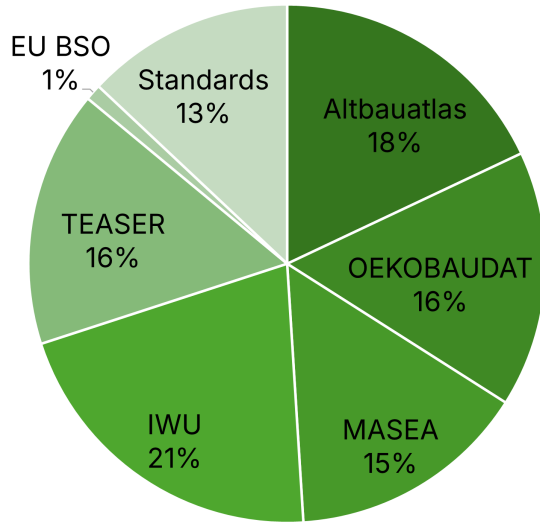


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EPD Summary Table

SPN	Full EPD ID	Material Title
1	004f3f4e-5bb8-4d9e-a104-6999a9e8ad5b	Gypsum lime plaster
2	27ccffb8-02ec-466d-b925-f6db91d4ef71	Bitumen sheets G 200 S4
3	50d421e2-3a7b-4659-92a4-f20d6a52fcf0	Mineral wool (facade insulation)
4	7395adfa-2a3f-43f1-be88-5d4a392968a5	Mineral wool (blowable)
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	86138863-3c1c-4345-9ae9-03ba28a5f9a7	Laminated timber planks coniferous wood (generic)
8	86d919ee-8f30-4ca4-9b7e-717aecba6ac0	Cement screed
9	9a670d29-efb9-4fde-95ab-182a0b1e7280	Lime gypsum interior plaster
10	Synthetic_2	Concrete C30/37 with reinforcement steel
11	Synthetic_7	Ready-mix concrete C30/37 with reinforcement steel
12	Synthetic_8	Air layer
13	ac779922-219f-4730-9aef-a7da84d334c1	Mineral wool (floor insulation)
14	ce333ecb-6cad-441c-9dae-70966acf9333	Gas condensing boiler 20-120 kW (upright unit)
15	d3661bd8-0107-4081-987b-4bdd5cfc68d	Mineral wool (pitched roof insulation)
16	dcf38066-e336-46a7-b0a8-b2453dd2872d	Window glass, single
17	e70d9027-5315-481c-92e2-7b7d8a02eaba	holzius ? solid wood slab elements
18	efa55966-4f29-4f15-bfec-8c08b3945923	Glued laminated timber



This archetype represents :

- 1.83% of all Apartment Blocks
- 3.12% 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/