



Apartment Block



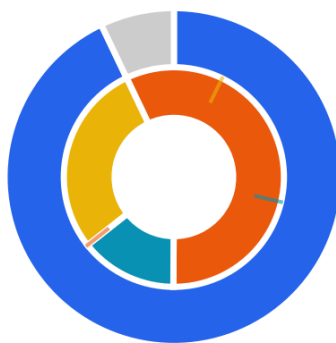
Region	south
Age Class	1958-1968
Net leased area [m²]	1186.9
Storey Height [m]	2.7
Storeys a.g.	4.0



Building Performance (KPIs)

KPI	Mean	95% CI	Unit	CV	n _{Sim}
Final heat energy demand - per year	79652.28	± 2227.71	kWh/a	0.19	90
Final heat energy demand - per m² net leased area and year	67.12	± 0.90	kWh/m²a	0.09	90
Carbon footprint (GWP) from heat energy - per year	19900.64	± 556.58	kgCO ₂ eq,B6/a	0.19	90
Carbon footprint (GWP) from heat energy - per m² net leased area and year	16.77	± 0.23	kgCO ₂ eq,B6/m²a	0.09	90
Life Cycle Carbon footprint (GWP) - over 50 years	1315510.17	± 35616.32	kgCO ₂ eq,full/50a	0.18	90
Life Cycle Carbon footprint (GWP) - per m² net leased area and for 50 years	1108.55	± 12.66	kgCO ₂ eq,full/m²50a	0.08	90

ABC



- Operational (92.0%)
- Exterior walls (4.00%)
- Roof (0.00%)
- Foundation (1.00%)
- Windows (2.00%)

Building element	D [kgCO ₂ eq/50a]
Exterior walls	-781.9
Roof	-896.8
Foundation	911.5
Windows	-2,949

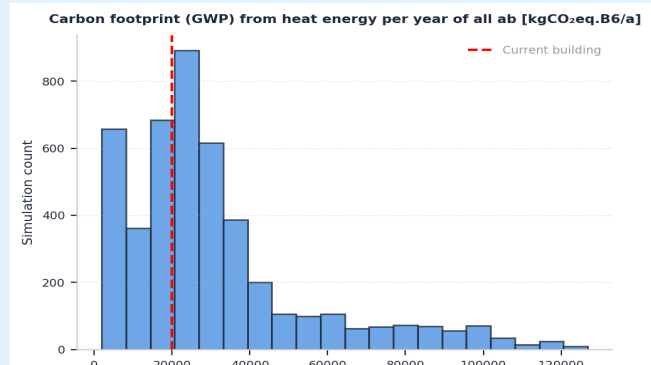
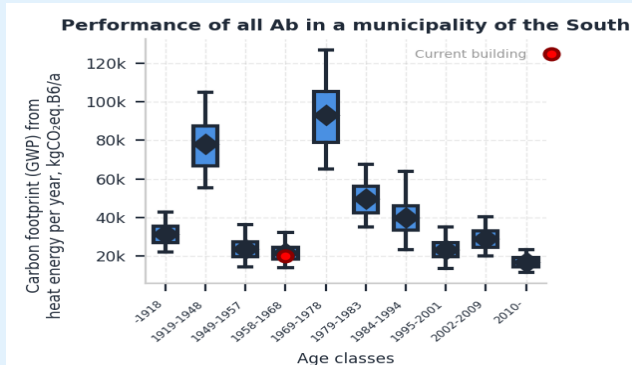
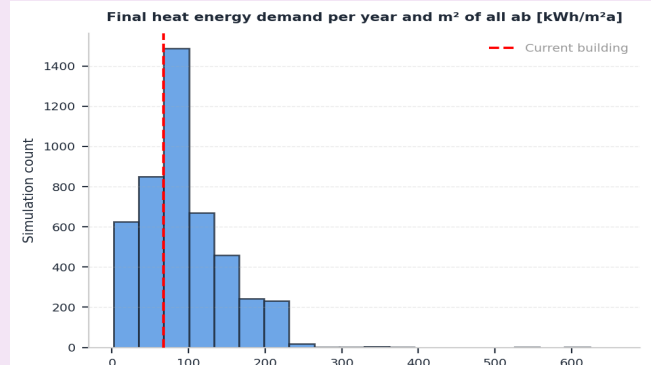
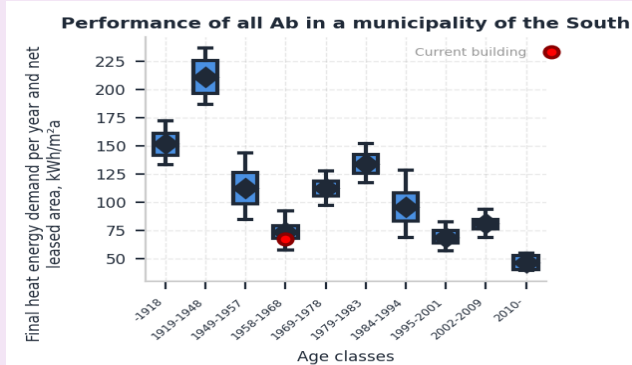
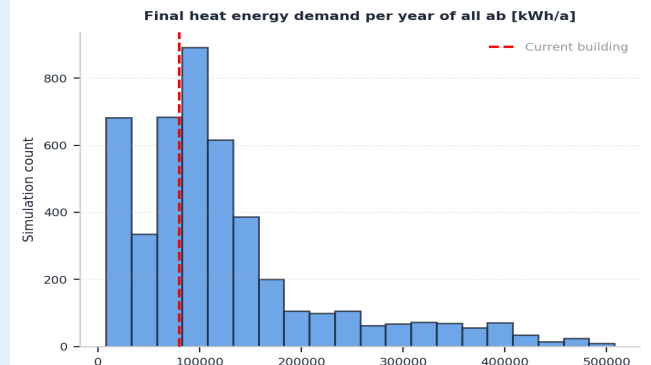
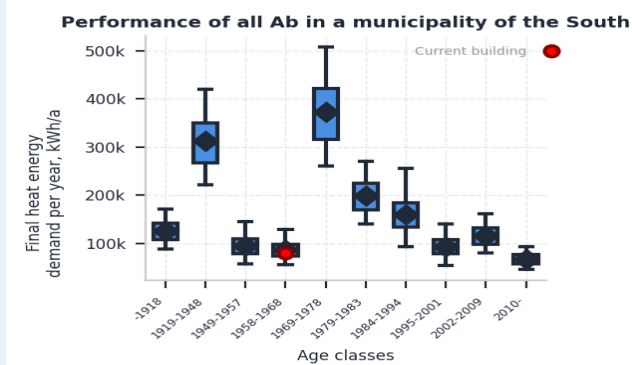


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Building Performance



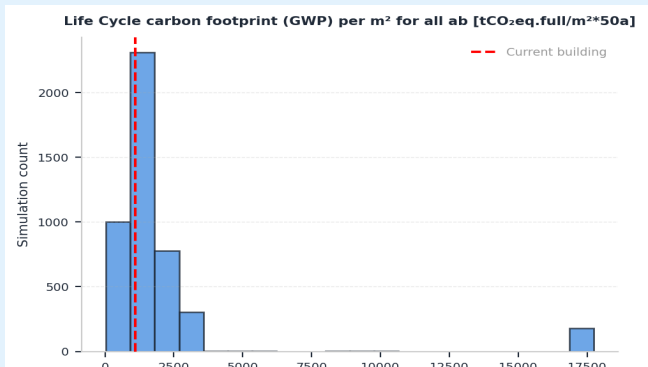
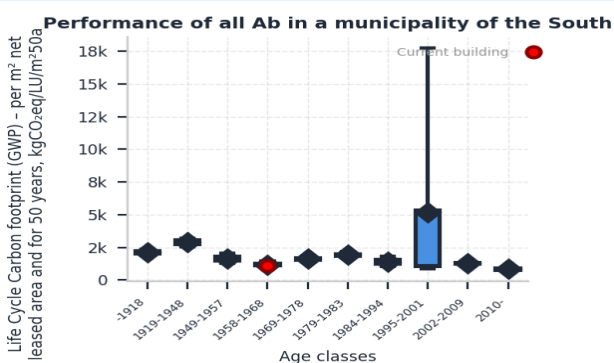
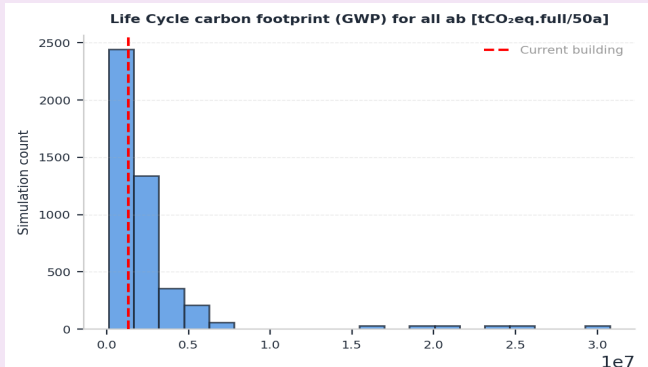
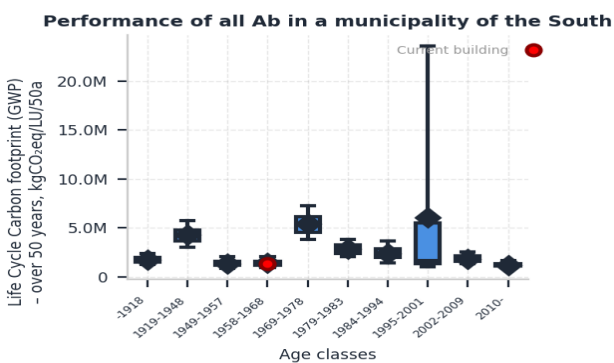
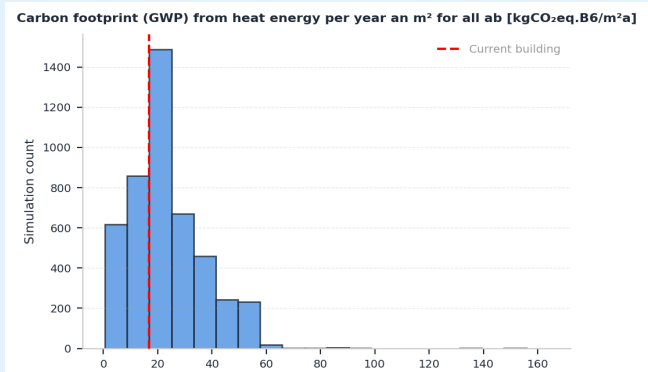
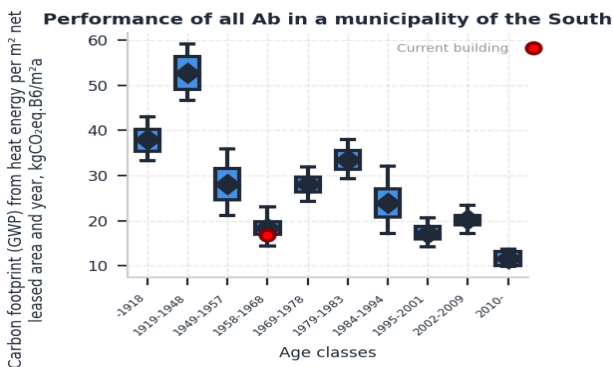


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Exterior Wall

Type: massive-double	U [W/m²K]		
	Actual: 0.390	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 board	0.013	732	0.21	1384	16	-
1	perforated bricks	0.3	1200	0.52	850	3	-
2	mineral wool	0.05	60	0.04	850	4	-
3	perforated bricks	0.24	1200	0.52	850	3	-
4	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	16	-
1	solid brick	0.15	1800	0.79	850	3	-
2	gypsum	0.015	850	0.3	1000	4	-

Roof

Type: wooden	U [W/m²K]		
	Actual: 0.230	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	9	-
1	rafters	0.08	455	0.14	1500	18	-
2	moving air layer	0.06	1.184	0.0261	1.005	12	-
3	wood wool	0.1	469	0.08	1470	17	-
4	reedy mat	0.01	215	0.081	2000	5	-
5	roof tiles	0.02	1786	0.55	889	13	-



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Foundation

Type: massive	U [W/m²K]		
	Actual: 0.500	Min: 0.180	Max: 1.500

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	0.06	60	0.04	850	4	-
2	reinforced brick	0.225	1788	0.87	868	11	-

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	0.04	1940	1.4	1000	19	-
1	mineral wool	0.01	60	0.09	850	14	-
2	reinforced concrete	0.15	2104	2.04	776	10	-

Window System

Glazing	EPD _{Gl}	Frame type	EPD _{Fr}	window wall share
2	15	pvc	6	0.17674

Heating System

Generator 1	EPD	Heating energy carrier	EPD
boiler_gas_medium_low_temperature	2	gas	7



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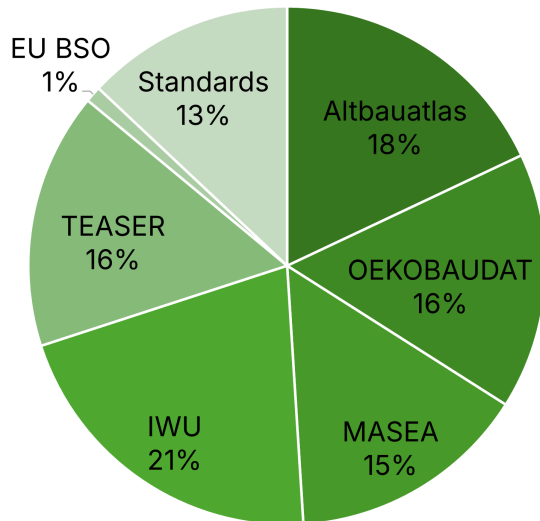


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EPD Summary Table

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	30514538-fcb4-483b-b5d5-c108d2037536	Brick (unfilled)
4	50d421e2-3a7b-4659-92a4-f20d6a52fcf0	Mineral wool (facade insulation)
5	51fa051b-38fb-422f-96e2-b2ee6e6f9445	Wallcoverings on cellulose fibre base
6	73de9e80-8ed2-47d8-b5b6-854c84166f24	Window sash PVC-U
7	84aa7483-9824-49a9-a3e3-f9fb092ea7b7	Use - 1 kWh of final energy from gas calorific value (according to GEG)
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_5	Sand-lime brick with reinforcement steel
12	Synthetic_8	Air layer
13	a6d60a75-7a4e-4dfc-87cc-fd40f68d279a	Roofing tiles (including accessories)
14	ac779922-219f-4730-9aef-a7da84d334c1	Mineral wool (floor insulation)
15	dcf38066-e336-46a7-b0a8-b2453dd2872d	Window glass, single
16	edec09e1-c56e-4655-a094-c9a18e1563ac	Gypsum plaster board (perforated, 12.5 mm)
17	ee0c4b18-f9c9-44d1-8766-36db08856a2f	Wood fiber insulation - dry process (German average)
18	efa55966-4f29-4f15-bfec-8c08b3945923	Glued laminated timber
19	fe371be5-c72f-4203-8569-a085ef375ba4	CALCIUM SULPHATE FLOWING SCREED AND CONVENTIONAL CALCIUM SULPHATE SCREED



This archetype represents :

- **3.06%** of all Apartment Blocks
- **3.70%** 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/