



Apartment Block



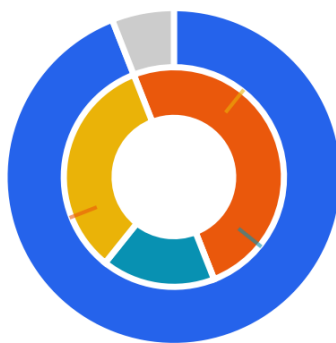
Region	south
Age Class	1969-1978
Net leased area [m²]	3322.0
Storey Height [m]	2.7
Storeys a.g.	4.0



Building Performance (KPIs)

KPI	Mean	95% CI	Unit	CV	n _{Sim}
Final heat energy demand - per year	372590.76	± 9692.58	kWh/a	0.17	90
Final heat energy demand - per m² net leased area and year	112.19	± 1.01	kWh/m²a	0.06	90
Carbon footprint (GWP) from heat energy - per year	93089.56	± 2421.63	kgCO ₂ eq,B6/a	0.17	90
Carbon footprint (GWP) from heat energy - per m² net leased area and year	28.03	± 0.25	kgCO ₂ eq,B6/m²a	0.06	90
Life Cycle Carbon footprint (GWP) - over 50 years	5418609.62	± 139798.07	kgCO ₂ eq,full/50a	0.17	90
Life Cycle Carbon footprint (GWP) - per m² net leased area and for 50 years	1631.53	± 13.51	kgCO ₂ eq,full/m²50a	0.06	90

ABC



- Operational (95.0%)
- Exterior walls (3.00%)
- Foundation (1.00%)
- Windows (2.00%)
- Roof (0.00%)

Building element	D [kgCO ₂ eq/50a]
Exterior walls	1,369
Roof	-16.7
Foundation	177.5
Windows	-7,663

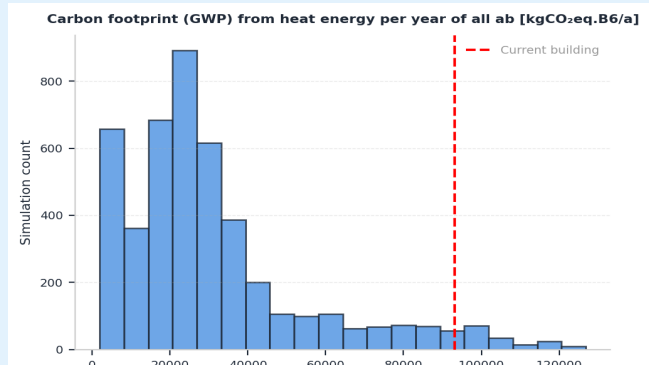
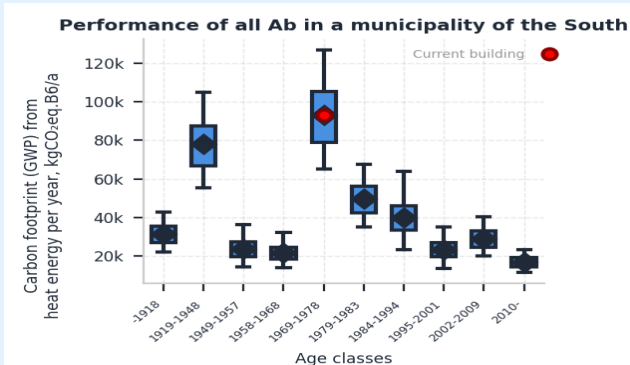
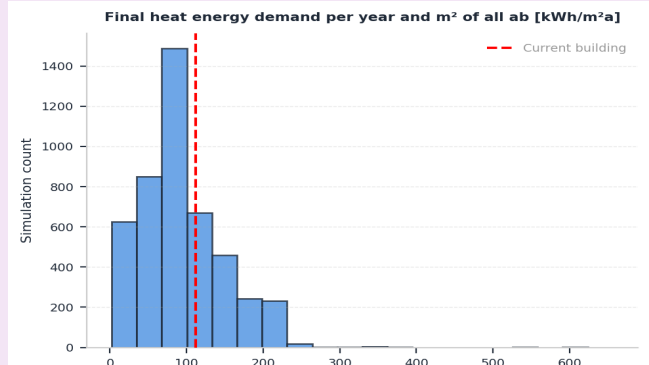
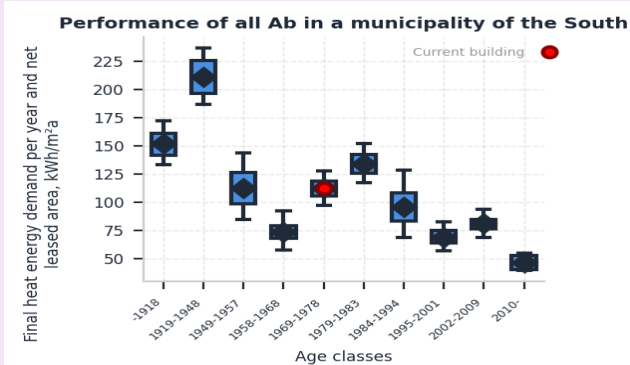
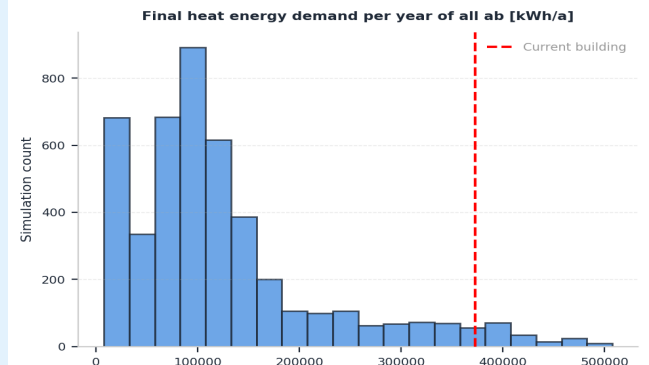
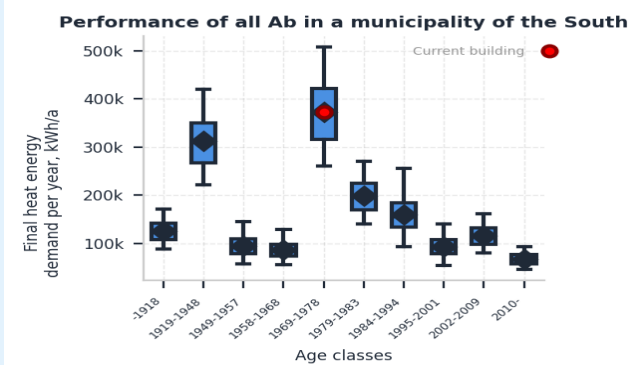


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Building Performance



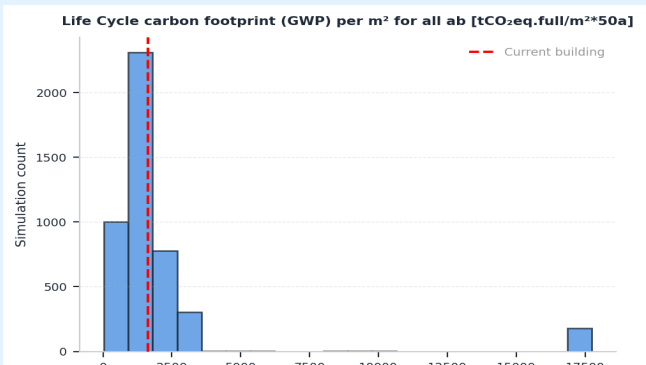
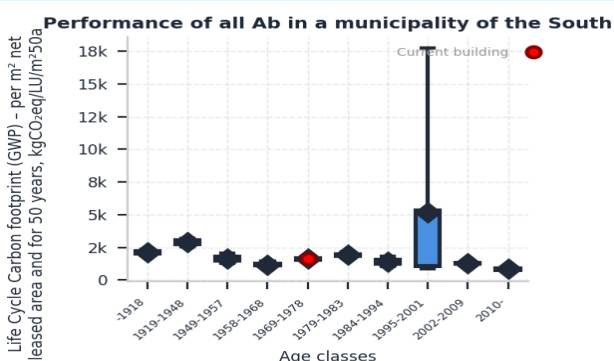
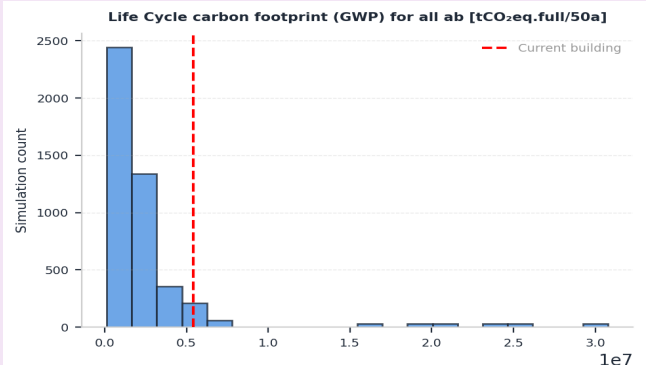
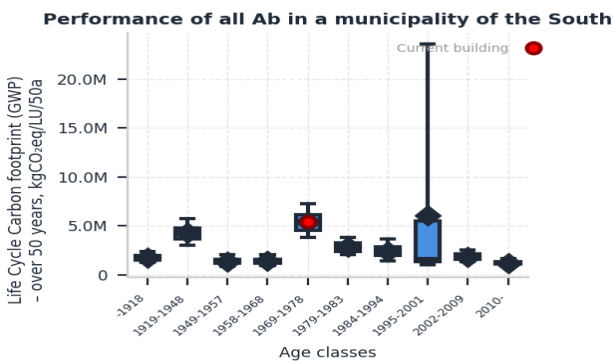
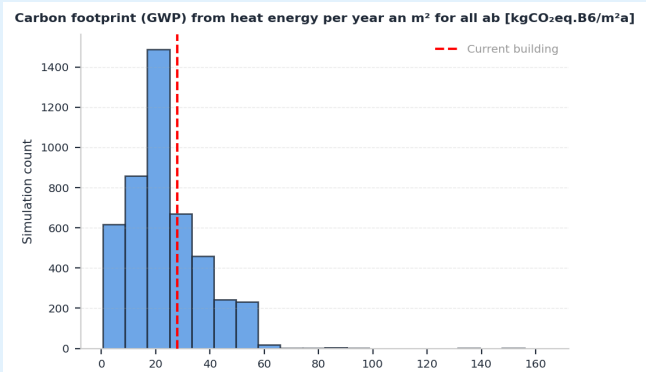
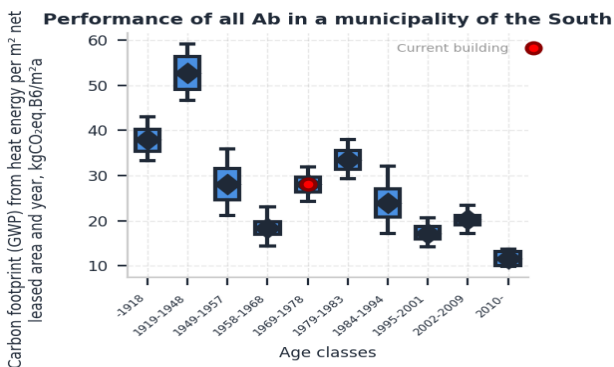


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Exterior Wall

Type: massive	U [W/m²K]		
	Actual: 0.950	Min: 0.170	Max: 0.800

Layer	Material Name	t _i [m]	ρ _i [kg/m³]	λ _i [W/mK]	c _i [J/kgK]	EPD ₁	EPD ₂
0	concrete_CEM_II_BS325R_wz05	0.175	2420	2.1	1000	7	-
1	EPS_040_15	0.03	15	0.04	1500	2	-
2	concrete_wz05	0.08	2300	1.6	850	7	-

Interior Wall

U [W/m²K]		
Actual: 4.040	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	7	-
1	reinforced concrete	0.1	2100	2.04	776	2	-
2	lime plaster	0.01	1600	0.7	850	7	-

Roof

Type: wooden	U [W/m²K]		
	Actual: 0.560	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	plasterboard	0.0125	732	0.21	1384	1	-
1	rafters	0.08	455	0.23	1500	9	-
2	mineral wool	0.05	60	0.04	850	4	-



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Foundation

Type: massive	U [W/m²K]		
	Actual: 1.230	Min: 0.170	Max: 1.000

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	10	-
1	EPS_040_15	0.02	15	0.04	1500	2	-
2	concrete_CEM_II_BS325R_wz05	0.15	2420	2.1	1000	7	-

Floor

U [W/m²K]		
Actual: 4.040	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	floating cement screed	0.04	1940	1.4	1000	10	-
1	EPS_040_15	0.03	15	0.04	1500	2	-
2	reinforced concrete	0.15	2104	1.94	776	7	-

Window System

Glazing	EPD _{Gl}	Frame type	EPD _{Fr}	window wall share
2	8	pvc	5	0.16406

Heating System

Generator 1	EPD	Heating energy carrier	EPD
boiler_gas_medium_low_temperature	3	gas	6



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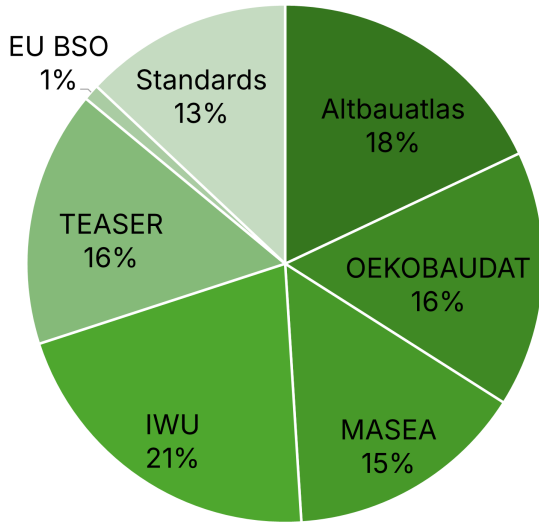


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EPD Summary Table

SPN	Full EPD ID	Material Title
1	0773f90c-78ef-4727-a966-3b005c1a1469	PLASTERBOARD / Tool
2	205b761d-e344-49c3-a3a9-bb1bfd59b916	Expanded Polystyrene (EPS) Foam Insulation (density 15 kg/m³)
3	230155d8-a5df-4b32-b6e9-46bdbcf526b3	Gas low temperature boiler 20-120 kW (upright unit)
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	Synthetic_2	Concrete C30/37 with reinforcement steel
8	dcf38066-e336-46a7-b0a8-b2453dd2872d	Window glass, single
9	efa55966-4f29-4f15-bfec-8c08b3945923	Glued laminated timber
10	fe371be5-c72f-4203-8569-a085ef375ba4	CALCIUM SULPHATE FLOWING SCREED AND CONVENTIONAL CALCIUM SULPHATE SCREED



This archetype represents :

- 6.35% of all Apartment Blocks
- 14.45% 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/