



Apartment Block



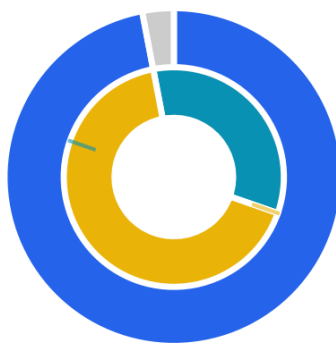
Region	south
Age Class	1984-1994
Net leased area [m²]	1672.1
Storey Height [m]	2.7
Storeys a.g.	4.0



Building Performance (KPIs)

KPI	Mean	95% CI	Unit	CV	n _{Sim}
Final heat energy demand - per year	189734.80	± 4941.71	kWh/a	0.17	90
Final heat energy demand - per m² net leased area and year	113.50	± 1.03	kWh/m²a	0.06	90
Carbon footprint (GWP) from heat energy - per year	47404.10	± 1234.66	kgCO ₂ eq,B6/a	0.17	90
Carbon footprint (GWP) from heat energy - per m² net leased area and year	28.36	± 0.26	kgCO ₂ eq,B6/m²a	0.06	90
Life Cycle Carbon footprint (GWP) - over 50 years	2743671.68	± 70912.26	kgCO ₂ eq,full/50a	0.17	90
Life Cycle Carbon footprint (GWP) - per m² net leased area and for 50 years	1641.23	± 13.80	kgCO ₂ eq,full/m²50a	0.06	90

ABC



- Operational (97.0%)
- Foundation (1.00%)
- Exterior walls (0.00%)
- Windows (2.00%)
- Roof (0.00%)

Building element	D [kgCO ₂ eq/50a]
Exterior walls	-359.5
Roof	-3,511
Foundation	1,402
Windows	-4,865

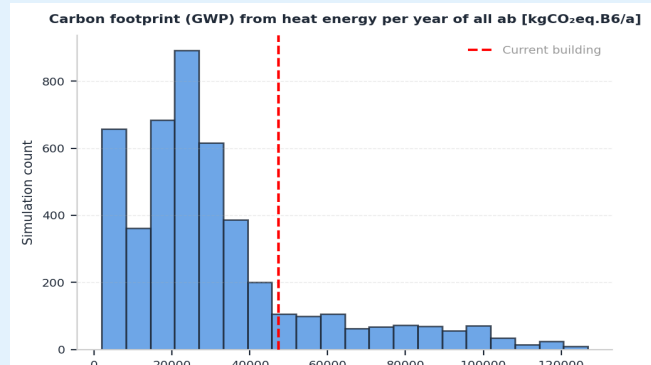
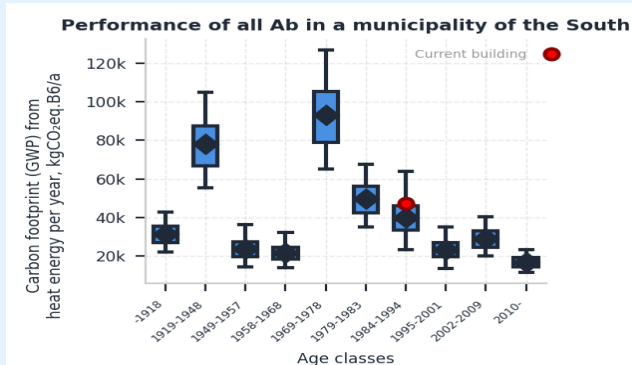
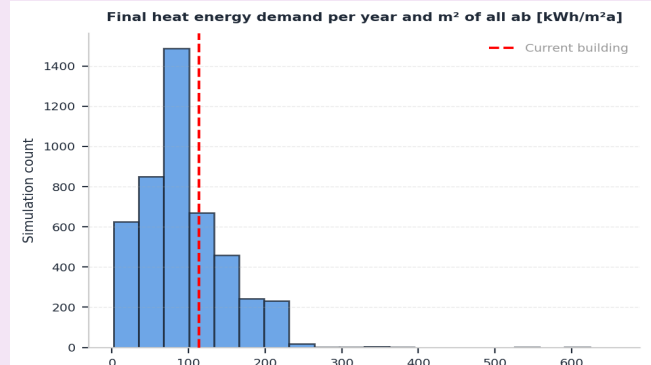
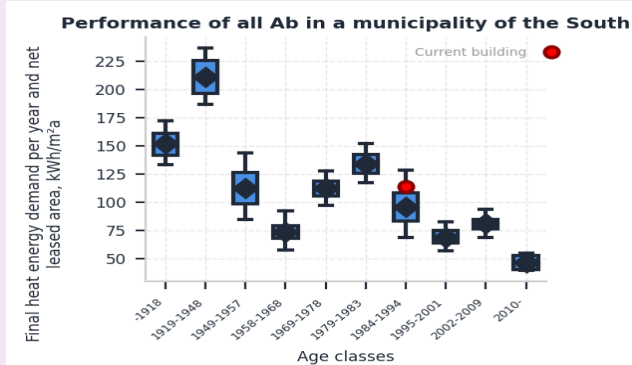
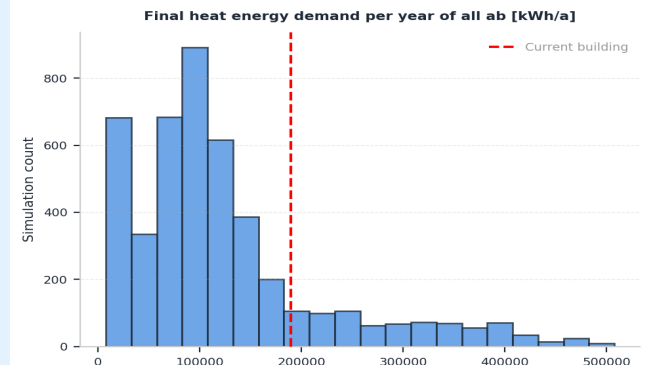
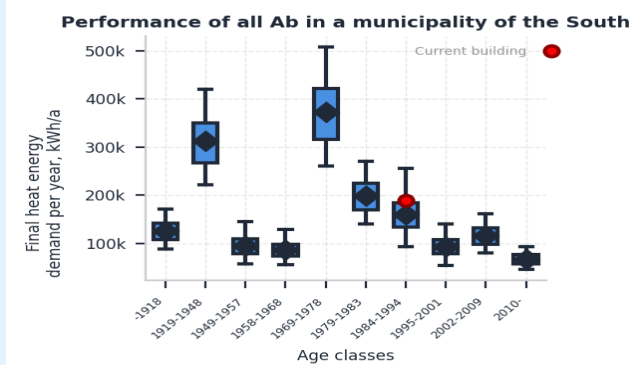


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Building Performance



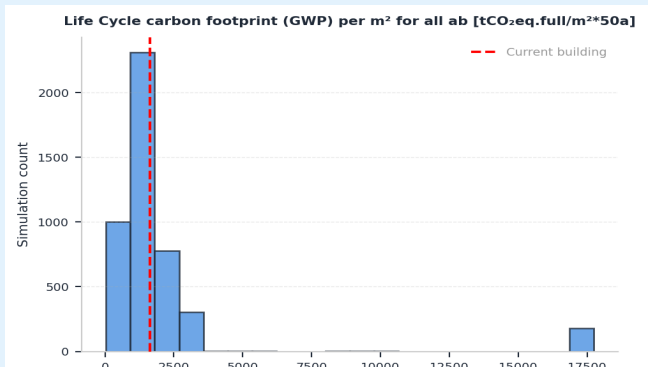
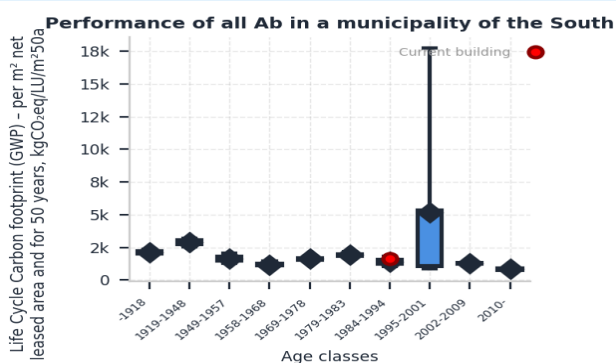
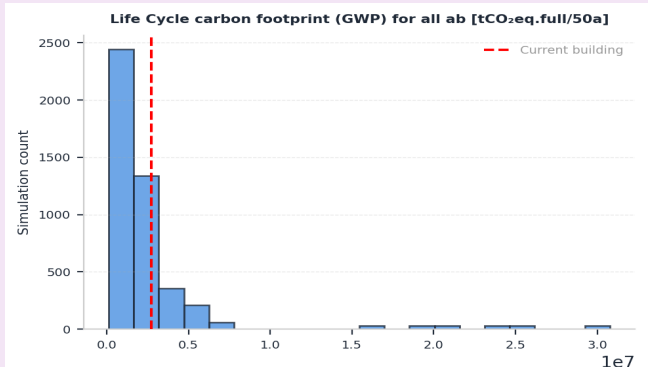
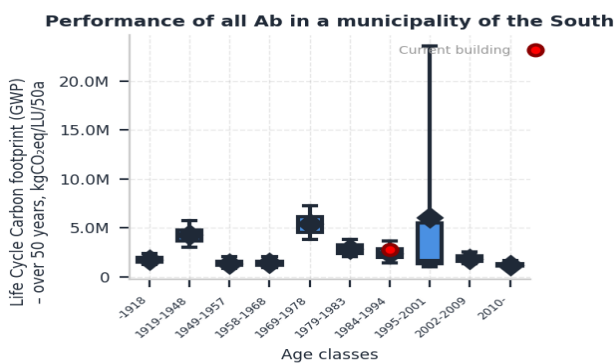
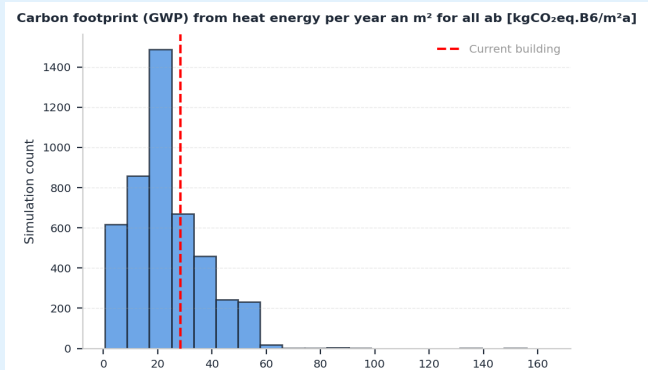
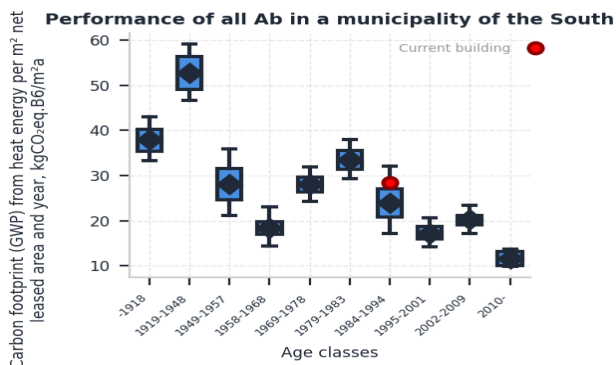


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Exterior Wall

Type: massive-monolithic	U [W/m²K]		
	Actual: 0.370	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	pumice hollow blocks	0.3	1600	0.56	1050	13	-
2	mineral wool	0.08	60	0.04	850	3	-
3	exterior plaster	0.015	1600	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	13	-
2	lime plaster	0.01	1600	0.7	850	3	-

Roof

Type: wooden	U [W/m²K]		
	Actual: 0.150	Min: 0.160	Max: 0.500

Layer	Material Name	t_i [m]	ρ_i [kg/m³]	λ_i [W/mK]	c_i [J/kgK]	EPD ₁	EPD ₂
0	gypsum plasterboard	0.013	900	0.21	1228	18	-
1	rafters	0.08	600	0.13	1500	17	-
2	moving air layer	0.06	1.184	0.0261	1.005	12	-
3	polyethylene underlay	0.005	900	0.35	2300	4	-
4	glass wool	0.14	120	0.04	840	5	-
5	roof tiles	0.02	1786	0.55	889	14	-



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Foundation

Type: massive	U [W/m²K]		
	Actual: 1.770	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	cement screed	0.04	2000	1.4	1000	8	-
1	mineral wool	0.01	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	15	-
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	6	0.20694

Heating System

Generator 1	EPD	Heating energy carrier	EPD
boiler_gas_medium_low_temperature	2	gas	7



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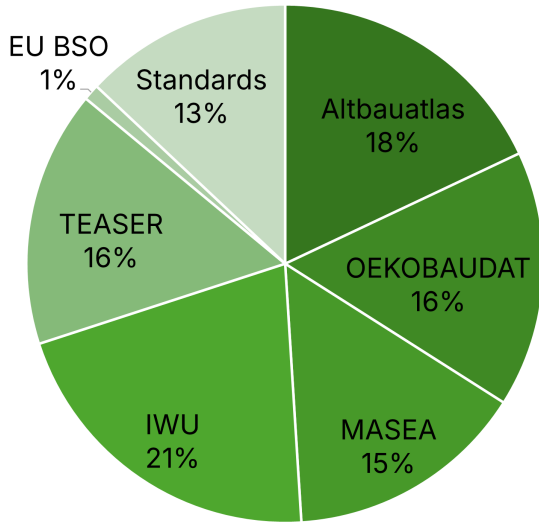


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EPD Summary Table

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	50d421e2-3a7b-4659-92a4-f20d6a52fcf0	Mineral wool (facade insulation)
4	6869f7c1-1b2b-4f30-afc9-823a0104f1d9	Damp insulation PE
5	7091503e-34e5-44cd-9acb-7c2f16f6097f	Foam glass insulation material
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_7	Ready-mix concrete C30/37 with reinforcement steel
12	Synthetic_8	Air layer
13	a1deced7-6fa9-4266-bc86-da75b3653b06	Lightweight concrete block from 100% natural pumice
14	a6d60a75-7a4e-4dfc-87cc-fd40f68d279a	Roofing tiles (including accessories)
15	ac779922-219f-4730-9aef-a7da84d334c1	Mineral wool (floor insulation)
16	dcf38066-e336-46a7-b0a8-b2453dd2872d	Window glass, single
17	efa55966-4f29-4f15-bfec-8c08b3945923	Glued laminated timber
18	f6878cee-a4bd-43da-a830-c64b975cb957	DRY SCREED PLASTERBOARD / Tool



This archetype represents :

- **1.10%** of all Apartment Blocks
- **9.44%** 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/