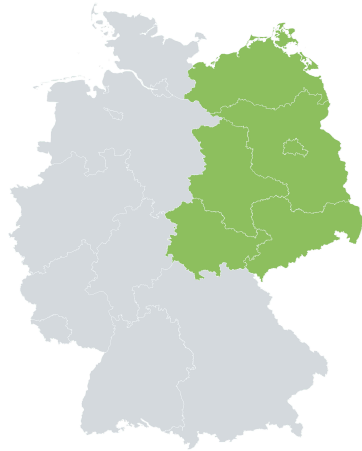




Apartment Block



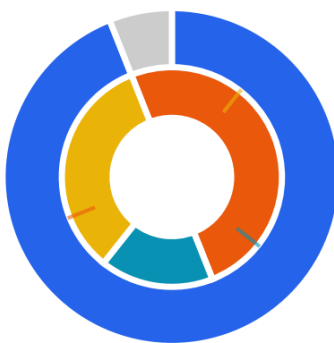
Region	east
Age Class	1949-1957
Net leased area [m²]	600.1
Storey Height [m]	2.7
Storeys a.g.	4.0



Building Performance (KPIs)

KPI	Mean	95% CI	Unit	CV	n _{Sim}
Final heat energy demand - per year	42482.87	± 2573.24	kWh/a	0.57	180
Final heat energy demand - per m² net leased area and year	71.31	± 4.12	kWh/m²a	0.54	180
Carbon footprint (GWP) from heat energy - per year	10673.07	± 638.26	kgCO ₂ eq,B6/a	0.56	180
Carbon footprint (GWP) from heat energy - per m² net leased area and year	17.92	± 1.02	kgCO ₂ eq,B6/m²a	0.53	180
Life Cycle Carbon footprint (GWP) - over 50 years	643869.98	± 39989.31	kgCO ₂ eq,full/50a	0.58	180
Life Cycle Carbon footprint (GWP) - per m² net leased area and for 50 years	1080.28	± 63.93	kgCO ₂ eq,full/m²50a	0.55	180

ABC

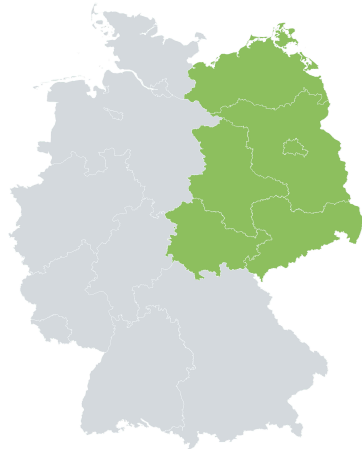


- Operational (94.0%)
- Exterior walls (3.00%)
- Roof (0.00%)
- Foundation (1.00%)
- Windows (2.00%)

Building element	D [kgCO ₂ eq/50a]
Exterior walls	-158.6
Roof	-557.6
Foundation	29.5
Windows	-1,200



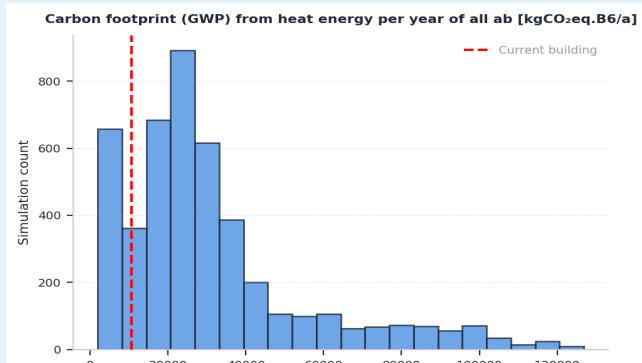
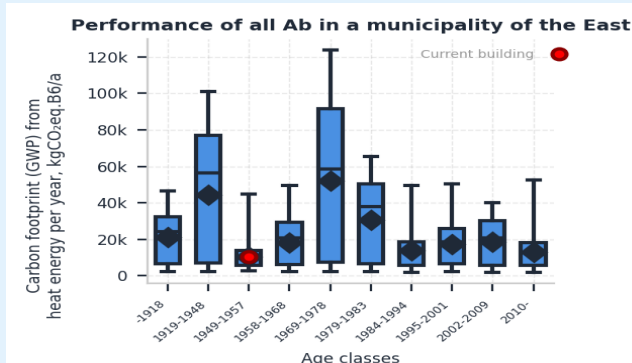
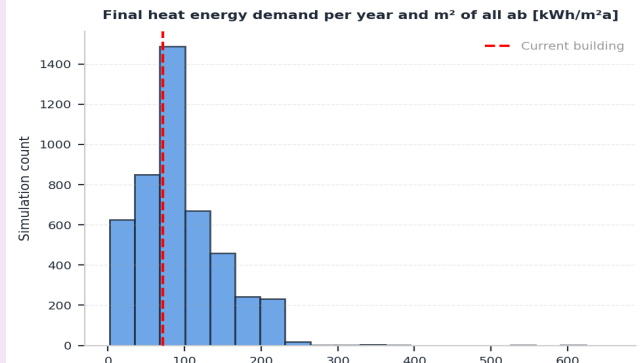
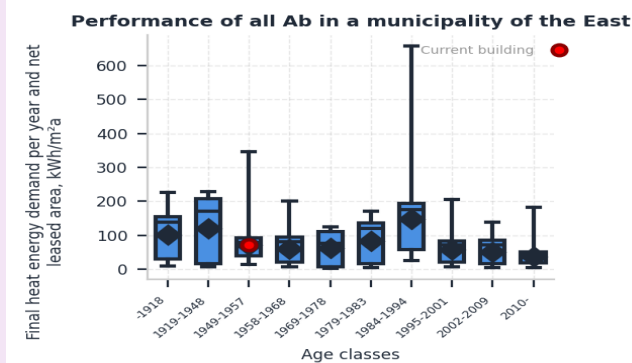
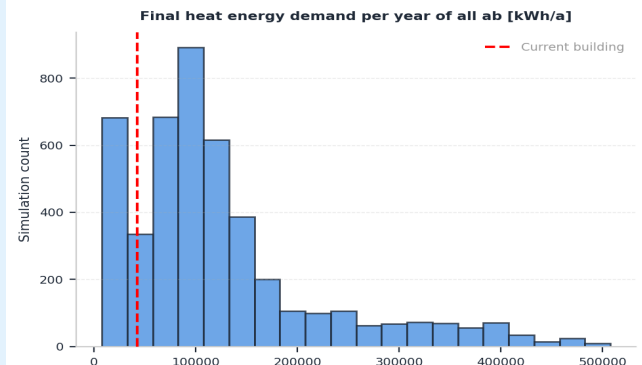
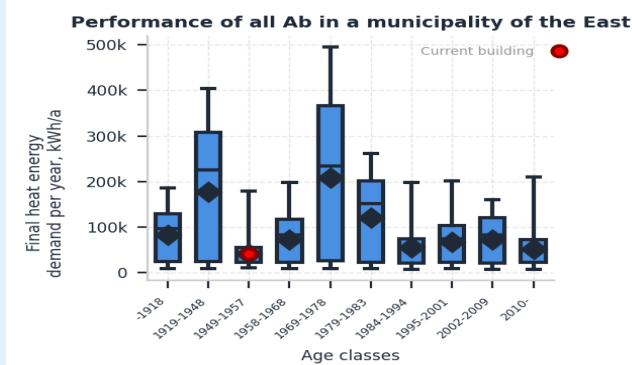
Apartment Block



Region	east
Age Class	1949-1957
Net leased area [m²]	600.1
Storey Height [m]	2.7
Storeys a.g.	4.0

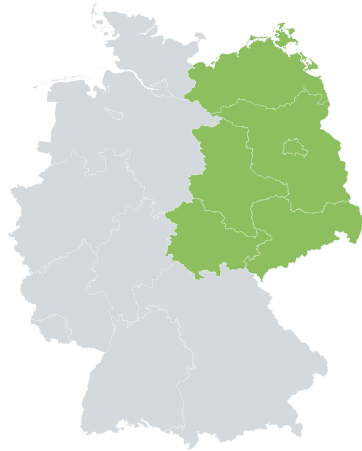


Building Performance





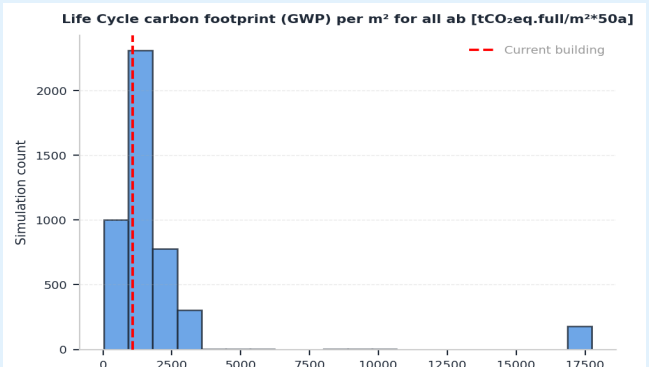
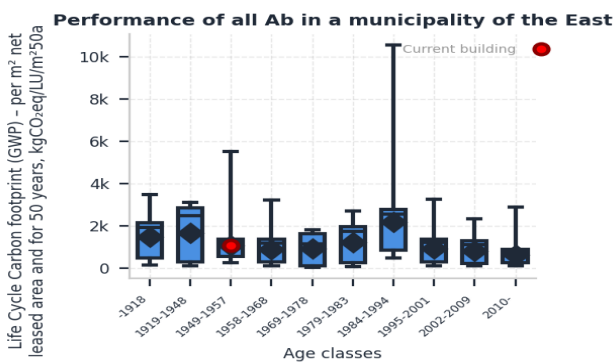
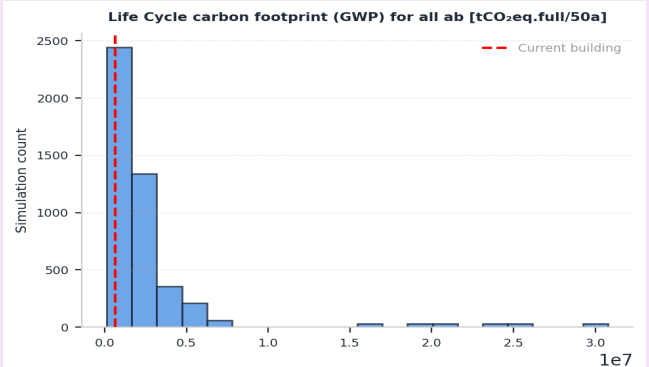
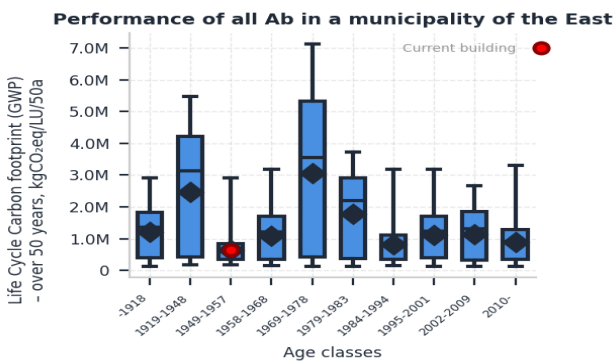
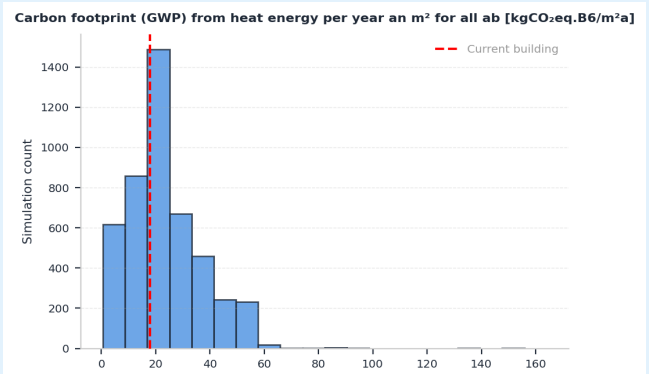
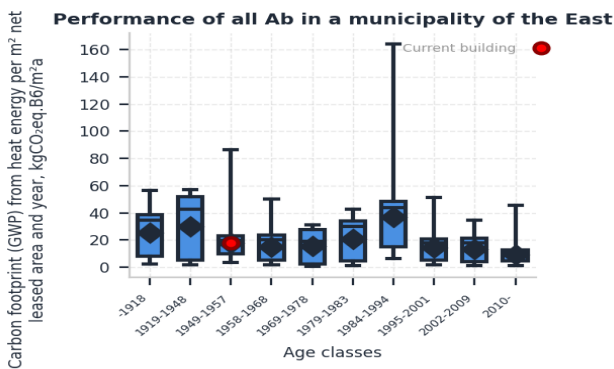
Apartment Block



Region	east
Age Class	1949-1957
Net leased area [m²]	600.1
Storey Height [m]	2.7
Storeys a.g.	4.0

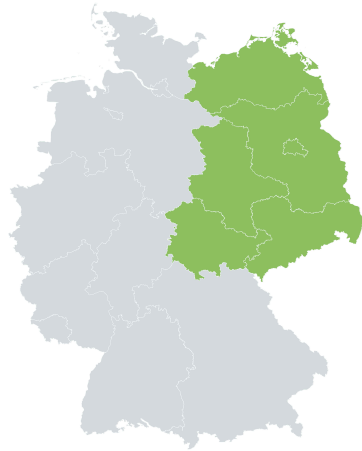


Building Performance





Apartment Block



Region	east
Age Class	1949-1957
Net leased area [m ²]	600.1
Storey Height [m]	2.7
Storeys a.g.	4.0



Exterior Wall

Type: massive-monolithic	U [W/m ² K]		
	Actual: 0.530	Min: 0.180	Max: 1.400

Layer	Material Name	t _i [m]	ρ _i [kg/m ³]	λ _i [W/mK]	c _i [J/kgK]	EPD ₁	EPD ₂
0	interior plaster	0.01	1400	0.7	850	9	-
1	mineral wool	0.05	60	0.04	850	6	-
2	solid brick	0.275	1800	0.7	850	3	-
3	exterior plaster	0.038	1600	0.79	850	1	-

Interior Wall

U [W/m ² K]		
Actual: 2.170	Min: 0.190	Max: 2.100

Layer	Material Name	t _i [m]	ρ _i [kg/m ³]	λ _i [W/mK]	c _i [J/kgK]	EPD ₁	EPD ₂
0	gypsum	0.015	850	0.3	1000	9	-
1	solid brick	0.15	1800	0.79	850	6	-
2	gypsum	0.015	850	0.3	1000	3	-

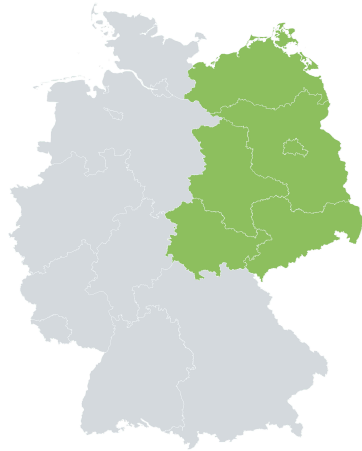
Roof

Type: wooden	U [W/m ² K]		
	Actual: 0.300	Min: 0.180	Max: 1.400

Layer	Material Name	t _i [m]	ρ _i [kg/m ³]	λ _i [W/mK]	c _i [J/kgK]	EPD ₁	EPD ₂
0	lime gypsum plaster	0.01	1900	0.7	850	1	-
1	rafters	0.08	455	0.14	1500	17	-
2	moving air layer	0.06	1.184	0.0261	1.005	12	-
3	wood wool	0.025	469	0.09	1470	16	-
4	roof tiles	0.02	1786	0.55	889	13	-



Apartment Block



Region	east
Age Class	1949-1957
Net leased area [m²]	600.1
Storey Height [m]	2.7
Storeys a.g.	4.0



Foundation

Type: massive	U [W/m²K]		
	Actual: 0.460	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	floorboards	0.025	740	0.21	1600	14	-
1	mineral wool	0.05	60	0.04	850	6	-
2	bed lumber	0.06	400	0.14	1500	5	-
3	sand filling	0.06	1800	0.58	840	2	-
4	concrete	0.12	2400	2.04	776	10	-

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	0.0475	1940	1.4	1000	18	-
1	mineral wool	0.015	60	0.04	850	6	-
2	reinforced concrete	0.165	2400	2.04	776	11	-

Window System

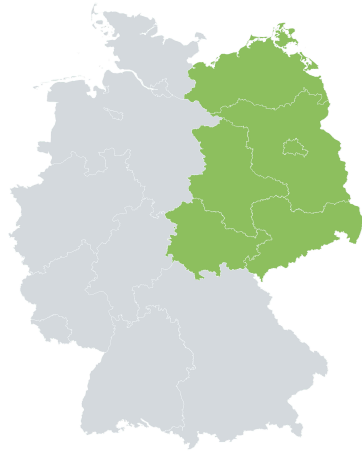
Glazing	EPD _{Gl}	Frame type	EPD _{Fr}	window wall share
2	15	pvc	7	0.18397

Heating System

Generator 1	EPD	Heating energy carrier	EPD
boiler_gas_medium_low_temperature	4	gas	8



Apartment Block

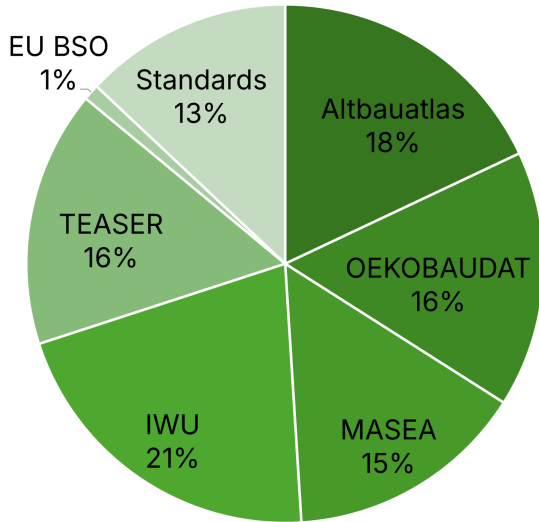


Region	east
Age Class	1949-1957
Net leased area [m²]	600.1
Storey Height [m]	2.7
Storeys a.g.	4.0



EPD Summary Table

SPN	Full EPD ID	Material Title
1	004f3f4e-5bb8-4d9e-a104-6999a9e8ad5b	Gypsum lime plaster
2	0d027c8c-89dc-486e-8390-b4649f5e6ed8	Sand 0/2 (dried)
3	127a23f5-d954-41c9-8f8a-ecca18aca691	Facing bricks
4	230155d8-a5df-4b32-b6e9-46bdbcf526b3	Gas low temperature boiler 20-120 kW (upright unit)
5	4dadfb92-ba5d-48de-bb7b-394c28911a90	Planed coniferous lumber (German average)
6	50d421e2-3a7b-4659-92a4-f20d6a52fcf0	Mineral wool (facade insulation)
7	73de9e80-8ed2-47d8-b5b6-854c84166f24	Window sash PVC-U
8	84aa7483-9824-49a9-a3e3-f9fb092ea7b7	Use - 1 kWh of final energy from gas calorific value (according to GEG)
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	a6d60a75-7a4e-4dfc-87cc-fd40f68d279a	Roofing tiles (including accessories)
14	bbbae8e3-3023-42b1-a58b-3cae9d482e10	Solid wood parquet (German average)
15	dcf38066-e336-46a7-b0a8-b2453dd2872d	Window glass, single
16	ee0c4b18-f9c9-44d1-8766-36db08856a2f	Wood fiber insulation - dry process (German average)
17	efa55966-4f29-4f15-bfec-8c08b3945923	Glued laminated timber
18	fe371be5-c72f-4203-8569-a085ef375ba4	CALCIUM SULPHATE FLOWING SCREED AND CONVENTIONAL CALCIUM SULPHATE SCREED



This archetype represents :

- 1.35% of all Apartment Blocks
- 7.73% 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/