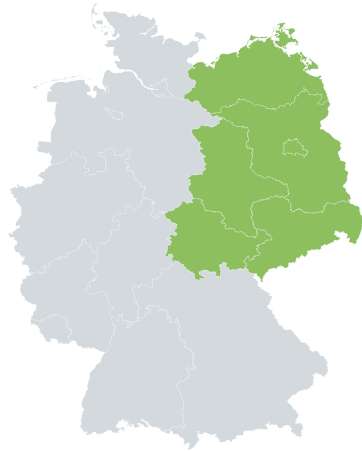




Apartment Block



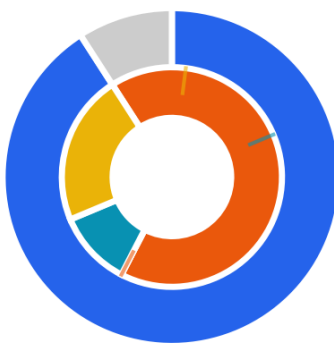
Region	east
Age Class	1995-2001
Net leased area [m²]	1223.1
Storey Height [m]	2.7
Storeys a.g.	3.0



Building Performance (KPIs)

KPI	Mean	95% CI	Unit	CV	n _{Sim}
Final heat energy demand - per year	68553.77	± 4445.76	kWh/a	0.62	180
Final heat energy demand - per m² net leased area and year	56.46	± 3.58	kWh/m²a	0.60	180
Carbon footprint (GWP) from heat energy - per year	17249.89	± 1099.01	kgCO ₂ eq,B6/a	0.61	180
Carbon footprint (GWP) from heat energy - per m² net leased area and year	14.21	± 0.88	kgCO ₂ eq,B6/m²a	0.59	180
Life Cycle Carbon footprint (GWP) - over 50 years	1118651.74	± 73294.99	kgCO ₂ eq,full/50a	0.62	180
Life Cycle Carbon footprint (GWP) - per m² net leased area and for 50 years	920.90	± 58.86	kgCO ₂ eq,full/m²50a	0.61	180

ABC

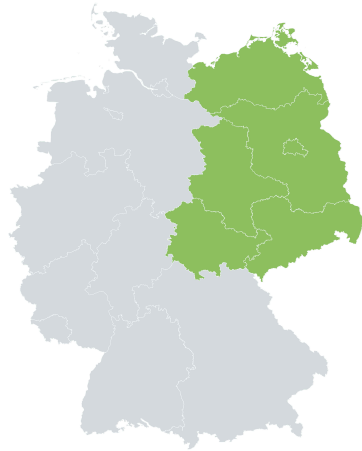


- Operational (90.0%)
- Exterior walls (6.00%)
- Roof (0.00%)
- Foundation (1.00%)
- Windows (2.00%)

Building element	D [kgCO ₂ eq/50a]
Exterior walls	451.8
Roof	-1,458
Foundation	255.4
Windows	-2,125



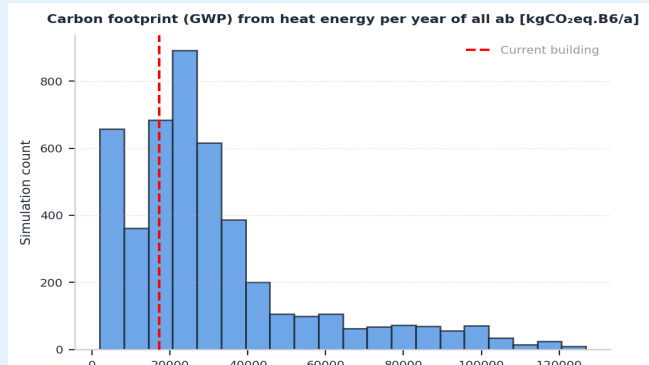
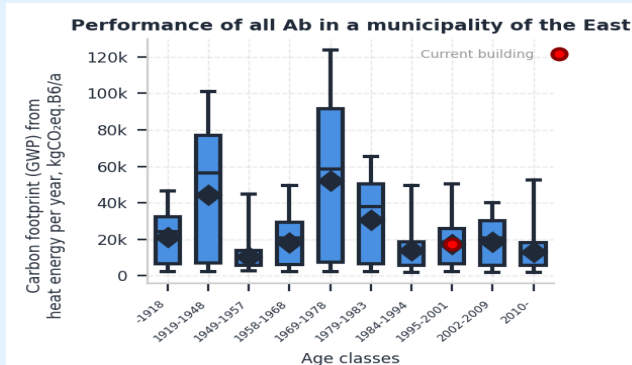
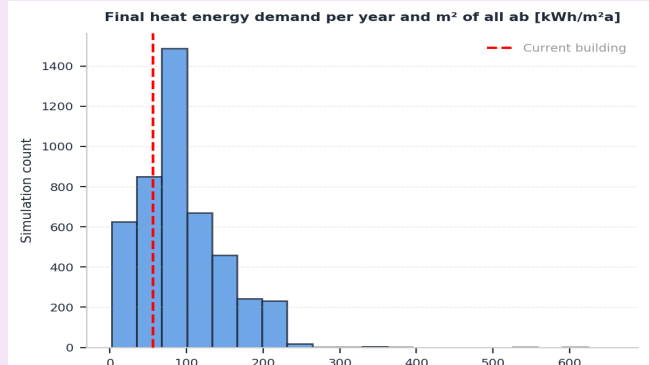
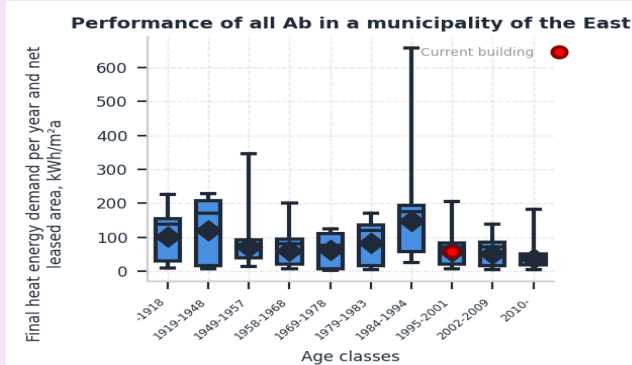
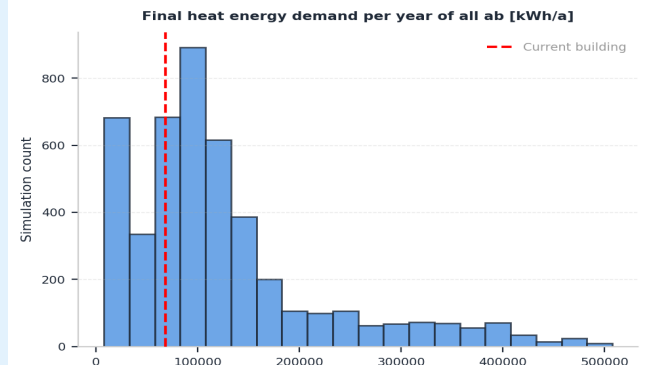
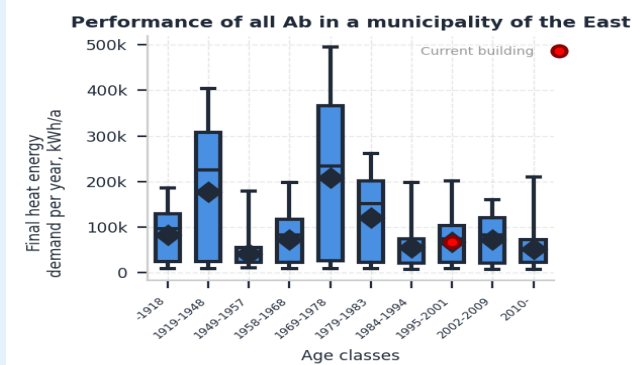
Apartment Block



Region	east
Age Class	1995-2001
Net leased area [m²]	1223.1
Storey Height [m]	2.7
Storeys a.g.	3.0

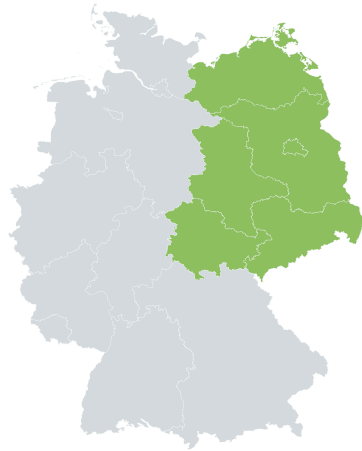


Building Performance





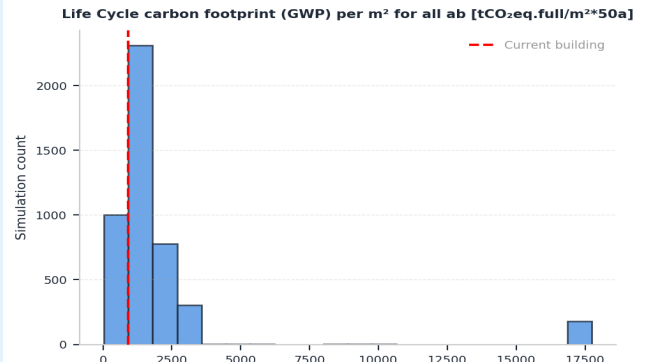
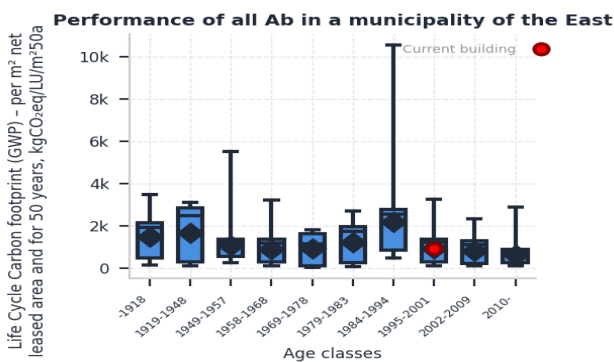
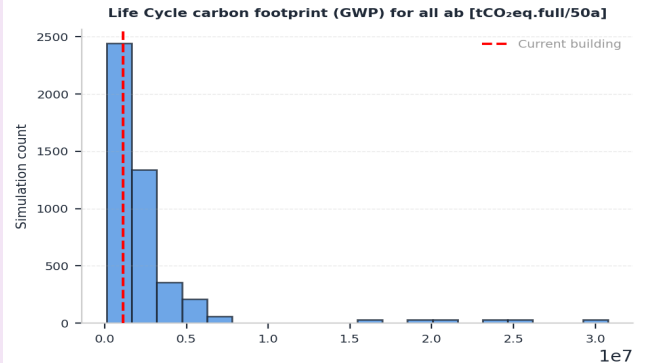
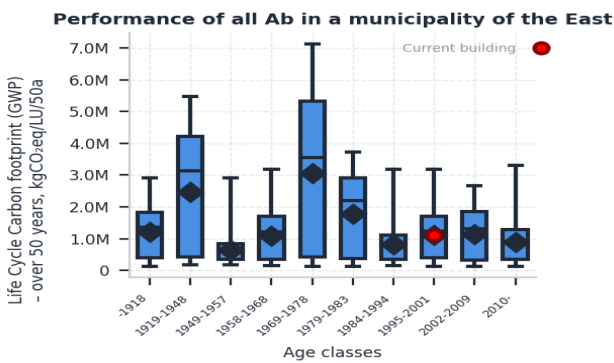
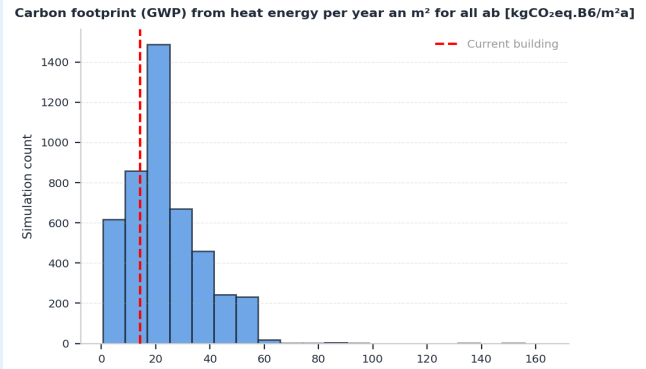
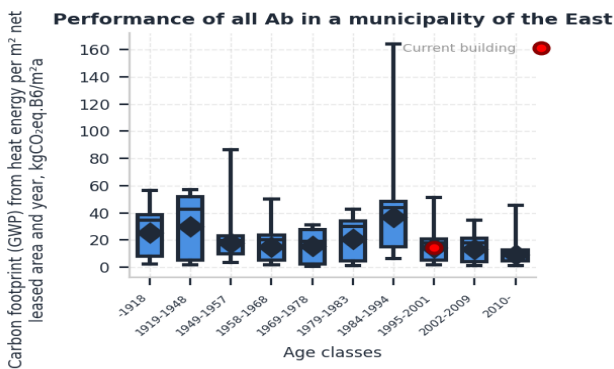
Apartment Block



Region	east
Age Class	1995-2001
Net leased area [m²]	1223.1
Storey Height [m]	2.7
Storeys a.g.	3.0

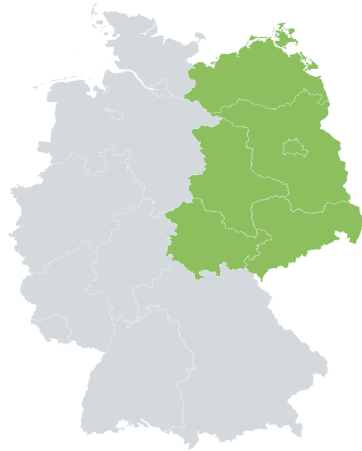


Building Performance





Apartment Block



Region	east
Age Class	1995-2001
Net leased area [m²]	1223.1
Storey Height [m]	2.7
Storeys a.g.	3.0



Exterior Wall

Type: massive-double	U [W/m²K]		
	Actual: 0.430	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	8	-
1	reinforced concrete	0.15	2400	2.1	776	9	-
2	kamilit	0.08	500	0.04	840	4	-
3	concrete	0.06	2400	2.1	776	9	-
4	washed plaster	0.02	1800	0.87	850	2	-

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	8	-
1	solid brick	0.15	1800	0.7	850	9	-
2	lime plaster	0.01	1600	0.7	850	4	-

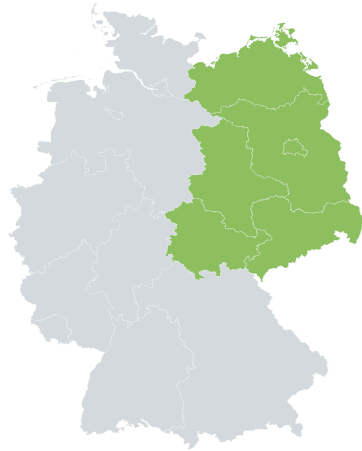
Roof

Type: wooden	U [W/m²K]		
	Actual: 0.160	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	lime gypsum plaster	0.01	1900	0.7	850	1	-
1	rafters	0.08	455	0.14	1500	15	-
2	moving air layer	0.06	1.184	0.0261	1.005	10	-
3	mineral wool	0.12	200	0.04	850	13	-
4	roof tiles	0.02	1786	0.55	889	11	-



Apartment Block



Region	east
Age Class	1995-2001
Net leased area [m²]	1223.1
Storey Height [m]	2.7
Storeys a.g.	3.0



Foundation

Type: massive	U [W/m²K]		
	Actual: 0.560	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	7	-
1	mineral wool	0.05	60	0.04	850	3	-
2	prefabricated concrete beams	0.19	1400	0.66	1050	9	-

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	7	-
1	mineral wool	0.04	60	0.04	850	3	-
2	reinforced concrete	0.2	2400	2.1	776	9	-

Window System

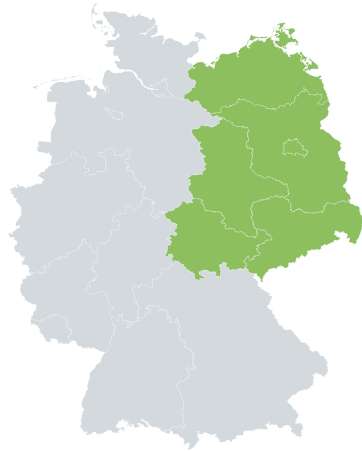
Glazing	EPD _{Gl}	Frame type	EPD _{Fr}	window wall share
2	14	pvc	5	0.19497

Heating System

Generator 1	EPD	Heating energy carrier	EPD
boiler_gas_medium_condensing	12	gas	6



Apartment Block

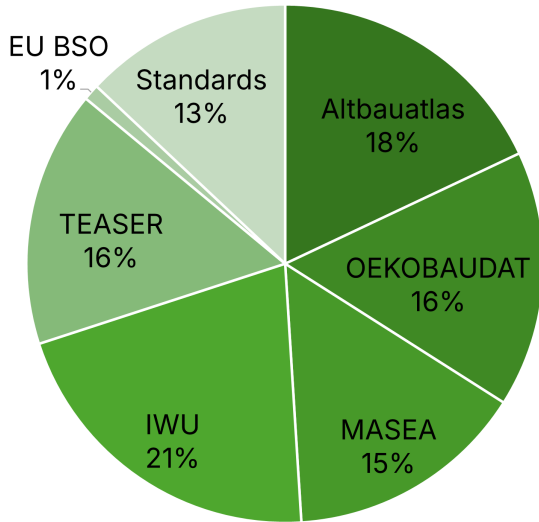


Region	east
Age Class	1995-2001
Net leased area [m²]	1223.1
Storey Height [m]	2.7
Storeys a.g.	3.0



EPD Summary Table

SPN	Full EPD ID	Material Title
1	004f3f4e-5bb8-4d9e-a104-6999a9e8ad5b	Gypsum lime plaster
2	44eada3f-2004-48b9-8152-22cd045bc3cf	5.1.01. Dispersion plaster
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	86d919ee-8f30-4ca4-9b7e-717aecba6ac0	Cement screed
8	9a670d29-efb9-4fde-95ab-182a0b1e7280	Lime gypsum interior plaster
9	Synthetic_2	Concrete C30/37 with reinforcement steel
10	Synthetic_8	Air layer
11	a6d60a75-7a4e-4dfc-87cc-fd40f68d279a	Roofing tiles (including accessories)
12	ce333ecb-6cad-441c-9dae-70966acf9333	Gas condensing boiler 20-120 kW (upright unit)
13	d3661bd8-0107-4081-987b-4bdd5cfc68d	Mineral wool (pitched roof insulation)
14	dcf38066-e336-46a7-b0a8-b2453dd2872d	Window glass, single
15	efa55966-4f29-4f15-bfec-8c08b3945923	Glued laminated timber



This archetype represents :

- **1.92%** of all Apartment Blocks
- **10.98%** 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/